

**Finding of No Significant Impact
Cuyahoga River Ecosystem Restoration
Canal Diversion Dam Project
Environmental Assessment**

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the National Park Service (NPS), Cuyahoga Valley National Park, and the Ohio Environmental Protection Agency (Ohio EPA), in partnership with the US Army Corps of Engineers (USACE) and the Ohio Department of Natural Resources (ODNR) have prepared an Environmental Assessment (EA) of the Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project. The NPS, Ohio EPA, USACE, and ODNR recognized the need to work together to establish procedures for timely disposition of issues or problems connected with planning for the modification and/or removal of the Canal Diversion Dam. The agencies determined that the NPS would be the lead federal agency with the Ohio EPA, USACE and ODNR as cooperating agencies. The EA evaluates a range of alternatives for the modification and/or removal of the Canal Diversion Dam in the Cuyahoga River within the boundary of Cuyahoga Valley National Park (CUVA).

Purpose and Need

The Ohio EPA has concluded that the Canal Diversion Dam negatively affects the water quality of the river and interrupts aquatic communities. These impacts result in the failure to achieve the goals of the Clean Water Act and the State of Ohio's Water Quality Standards (WQS). The purpose and need of the Canal Diversion Dam project is to identify an ecological restoration strategy to improve the water quality conditions of the river while upholding the mission of protecting and preserving resource values of the park.

Selected Action (Alternative 3)

Alternative 3 - Full Removal of Canal Diversion Dam with Pump Installation. Based on the analysis presented in the EA, the NPS selected Alternative 3 because it best meets the purpose and need for the project while minimizing adverse effects to the Ohio and Erie Canal. In Alternative 3, the Canal Diversion Dam would be completely removed, the feeder gates would remain in place, and the river would be restored to grade levels that provide a natural, free flowing regime. Due to elevation changes resulting from the complete removal of the Canal Diversion Dam, the Ohio EPA will fund, develop, install and operate an active watering system for the Ohio and Erie Canal to divert an appropriate amount of water into the canal in order to retain a water level sufficient to preserve its cultural value and avoid adverse effects. Alternative 3 will not have significant impacts on any environmental resources.

Other Alternatives Considered

Through interagency consultation and public involvement, the NPS considered a wide range of alternatives to meet the project purpose and need and analyzed three alternatives: Alternative 1, No Action; Alternative 2, Modification of the Canal Diversion Dam with Canal Dredge; and Alternative 3, Full Removal of Canal Diversion Dam with Pump Installation.

Alternative 1 – No Action. The Canal Diversion Dam currently diverts water via the feeder gate system to the Ohio & Erie Canal. Built in 1952, the Canal Diversion Dam and feeder was an essential component providing water for the American Steel and Wire Company manufacturing operation located six miles

north of the dam. This dam is 183 feet long and 8 feet high (Figure 3). Under the No Action Alternative, the modern Canal Diversion Dam, the feeder gate system and the remnants of the 1827 Pinery Dam, which is submerged beneath the dam pool, would remain in place.

Alternative 2 - Modification of the Canal Diversion Dam with Canal Dredge. In Alternative 2, the Canal Diversion Dam and remnants of the Pinery Dam would be removed, the feeder gates would remain in place, and a partial (less than full width of river) or a lower dam (full width of river) would be constructed on site. This new structure would need to be a minimum of 3-4 feet in height in order to allow water to be diverted into the Ohio & Erie Canal. Elevation changes resulting from the modification of the Canal Diversion Dam would require the canal prism to be dredged for approximately one mile downstream (north) of the project area in order to generate a gravity flow of water from the river into the Canal. Dredged material would be removed via the same access route as the dam materials. Water levels in the canal would be lower than existing conditions and could become dry depending on fluctuations in precipitation that affect the flow of the river. Because the Canal Diversion Dam and its predecessor, the Pinery Dam, supplied water to the Ohio and Erie Canal (a downstream portion of which is a National Historic Landmark (NHL)), this alternative (and Alternative 3) would maintain the canal in a watered condition.

Significance Criteria Review

The NPS considered significance of the impacts of the proposal in terms of their context and intensity, as defined in 40 CFR 1508.27.

In consultation with an array of agencies and stakeholders, the NPS and the Ohio EPA defined the context of the proposal to account for all possible direct, indirect and cumulative impacts. To account for all possible direct and indirect project effects in the short and long terms, the NPS has developed an expansive study area that included not only the immediate project area, but also areas both upstream and downstream of the existing diversion dam. The context for direct impacts included all areas that may be subject to ground disturbance; use; or construction-and operation-related visual, auditory, or atmospheric effects. The context for indirect effects included the river impoundment behind the dam extending for approximately two miles upstream, as well as the watered section of the Ohio and Erie Canal that extends to northern boundary of the Park.

In assessing the impacts of alternatives, the NPS, in consultation with state and federal agencies, considered the intensity of impacts Alternative 3 may have on the human environment, as follows:

(1) Impacts that may be both beneficial and adverse.

The impacts of Alternative 3 may be both beneficial and adverse by restoring the Cuyahoga River to a healthy and free flowing condition, but removing two dams that are contributing elements to the Ohio and Erie Canal historic district and cultural landscape. However, working in consultation with the Ohio State Historic Preservation Office (SHPO), NPS has resolved the adverse effects to the Ohio and Erie Canal through mitigation, and therefore there are no significant impacts.

(2) The degree to which the proposed action affects public health or safety.

Alternative 3 will positively affect human health and safety by restoring the Cuyahoga River to a free flowing condition, improving water quality, increasing the health of the aquatic populations and removing a dangerous in-channel hazard to recreational paddlers and anglers.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

Alternative 3 was developed explicitly to improve the quality of the water in the Cuyahoga River while improving the scenic qualities of the upstream impoundment behind the dam by restoring the river to its original course. In doing so, Alternative 3 will result in the removal of the Brecksville Dam and the remnant of the earlier Pinery Dam, but will ensure that downstream portions of the Ohio and Erie Canal, including the NHL, are maintained in a watered condition. The selected action will restore this ecologically critical river system to a free flowing condition while preserving the watered portion of the canal. The other resources above were considered in the EA but were either not relevant or were dismissed from analysis because there would be negligible impacts.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

There were no highly controversial effects on the quality of the human environment identified during either the preparation of the EA or the public review period. Because of its role in impairing the health of the Cuyahoga River, discussion of the removal of the Canal Diversion Dam has been in the public discourse for decades, with overwhelming public and agency support for its removal. Throughout the long environmental review process that has resulted in the EA, including a series of public involvement activities occurring from 2002 to 2016, there has been general agreement among the cooperating agencies and the public about the benefit of Alternative 3 to the health of the river. Although individual anglers bemoan the loss of a favorite fishing spot, most agree that the improvement in the health of the river will benefit fish and fishing.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The NPS considered the potential effects of Alternative 3 on the human environment throughout the environmental process. Working in consultation with cooperating agencies, stakeholders, and the public, the NPS assessed the potential impacts of Alternative 3 on a range of impact topics. Most of the effects are certain and quantifiable. However, surrounding urban and suburban development and related storm water runoff contribute to flooding of the Cuyahoga River. Restoration of the river to a free flowing condition means there is necessarily some uncertainty regarding the river's ever-changing morphology. However, the NPS found that no highly uncertain effects are associated with Alternative 3, and are confident that the EA addresses the environmental risks and benefits of the proposal.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The selected action does not establish a precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration. Nearly 40 years since the adoption of the Clean Water Act, the river continues to embody ecological restoration and a rebirth of a healthier Great Lakes ecosystem for future generations. The restoration of the river to a free flowing condition will remove a beneficial use impairment (as defined by the Great Lakes Water Quality Agreement) that combined with other impairments to cause the Cuyahoga River to be listed as an Area of Concern (AOC) within the Great Lakes Basin. The removal of the dam will encourage ongoing and continuous improvement in the condition of the watershed within the CUVA.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

Upon removal of the dam, the river system is expected to adjust its width, depth, and slope as a result of bank erosion and gravel bar building in areas not confined by the infrastructure of the railroad tracks and Towpath Trail. Over the long-term, the river will be free flowing, creating a more natural substrate, riparian features, and improved channel form and function. Under Alternative 3, short-term impacts from the project activity (initial dam removal and construction of pump) would result in a slight increase in sediment release and total suspended solids. In the long-term, the actions proposed under Alternative 3 would result in beneficial impacts to stream flow characteristics. Implementation of the selected action when added to other past, present, or reasonably foreseeable actions will not cause significant impacts.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

Based on the nature of the alternatives and the reasonable and foreseeable secondary effects of the undertaking, any alternative that satisfies the project purpose and need would affect the Ohio and Erie Canal in some manner. In consultation with the SHPO, NPS found that the selected action would cause an adverse effect to Ohio and Erie Canal as a result of the removal of the Canal Diversion Dam and the remnant of the Pinery Feeder Dam, both contributing elements to the canal landscape. The NPS, Ohio EPA, and SHPO therefore continued consultation to resolve the adverse effect to the Ohio and Erie Canal, and recorded the agency commitments to avoid, minimize, and mitigate the adverse effect in a memorandum of agreement (MOA) executed on July 14, 2017. This concluded the NHPA section 106 consultation process.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

Based on park surveys and information from Ohio's Natural Heritage Database, listed species are either not present, unlikely to occur in the project area based on habitat requirements, and/or, if present in the project area, will not be adversely affected by the alternatives. Informal consultation and scoping (initiated in 2009 and re-evaluated in 2015) with the US Fish and Wildlife Service (USFWS) concluded the implementation of the considered alternatives is not likely to adversely affect threatened and endangered status species. On November 24, 2009, the USFWS provided comment on the proposal and preliminary alternatives (Appendix B). The USFWS noted that the project lies within the range of the Indiana bat, a federally listed endangered species. Male Indiana bats have been documented to occur in the Cuyahoga Valley National Park. CVNP encompasses approximately 33,000 acres of permanently protected habitat within the vicinity of the project site. Therefore, the presence of suitable habitat is not a limiting factor for the bat in this area. The NPS incorporated the USFWS conditions on the timing of any tree removal, if necessary, to ensure that that undertaking is not likely to adversely affect the Indiana bat. The USFWS also noted that the project lies within the range of the piping plover, a federally listed

endangered species, but due to the project type, location, and on site habitat, this species would not be expected within the project area, and no impacts to this species are expected. On July 29, 2015, the USFWS agreed with the NPS biologists that the preferred alternative is not likely to adversely affect the recently listed federally threatened species, the northern long-eared bat, and affirmed its 2009 comments, that the proposal is not likely to adversely affect the Indiana bat (Appendix B).

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The selected action violates no federal, state, or local laws, including environmental protection laws.

Public Involvement

Stakeholder groups with specific interest and/or expertise about the project were identified as early as 2002. These groups and the public were invited to participate in several public scoping workshops held by NPS and the Ohio EPA. In 2002, the NPS sent a scoping letter to nine key agencies requesting input on issues and water quality for Canal Diversion Dam Project, and followed by a stakeholder scoping-meeting attended by all nine agencies. In 2005, the NPS established an interagency Interdisciplinary Team (IDT) that also included USACE, ODNR's Division of Wildlife and Division of Water, Cleveland Metroparks, and the Friends of the Crooked River. A stakeholder scoping-meeting, attended by 28 people representing a variety of entities, and a citizen based stakeholder meeting, attended by 32 people, were held that year.

As the environmental process continued, agencies and stakeholders were informed through project newsletters. In 2009, the NPS published a Notice of Intent (NOI) to prepare an EIS, and again followed with a widely published public scoping meeting attended by 65 individuals, who were asked to provide comment through the NPS Planning, Environment and Public Comment (PEPC) website. Based on the information gained from analysis of alternatives, agency consultation and public involvement, the NPS published a notice of termination of the EIS and issued the intent to prepare an EA in the Federal Register, and revised the environmental documents. In 2016, the NPS presented the draft EA to agencies, stakeholders and the public, and again solicited comments in writing and through the PEPC system. The final EA reflects the sum of the public involvement work, and includes appendices documenting agency consultation and public involvement that are also included as Appendices B–E to this document.

Agency Coordination

Comprehensive comments were received on the EA from several federal and state agencies, including: U.S. Fish and Wildlife Service (USFWS), Northeast Ohio Regional Sewer District (NEORSD), Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (USACE), and Ohio State Historic Preservation Officer (Ohio SHPO).

USFWS. In a final letter dated, June 30, 2015, the USFWS concurred with the NPS determination that the actions are not likely to adversely affect federally threatened or endangered species.

NEORSD. The NEORSD will operate and maintain the pump station to maintain flow from the Cuyahoga River to the Ohio and Erie Canal. In a letter dated September 30, 2016, NEORSD requested that they be included in all discussions involving planning, design, and operation of the pump station—NPS will involve the NEORSD in all planning and design related to the operation of the pump station.

USEPA. In a letter sent September 28, 2016, USEPA relayed its concerns about the quality of information in the document relating to water and water resource impacts, sediments and sediment release,

construction staging and access, impact analysis, historic preservation, threatened and endangered species, water quality concerns, and mitigation and adaptive management. The Ohio EPA and NPS responded to the substantive comments in errata and through minor revision of the document, with comment responses appended to the EA and this FONSI. The most critical concerns were wetlands and water resources. To ensure an appropriate level of analysis, the NPS consulted with wetland and floodplain specialists at NPS Water Resources Division and determined that this action is exempt from further analysis under Director's Order #77-1 and Procedural Manual #77-1: Wetland Protection. Therefore, neither a floodplain Statement of Findings (SOF) nor a wetland SOF is necessary.

USACE. In its letter of October 7, 2016, the U.S. Army Corps of Engineers (USACE) indicated that the proposed project involves activities regulated by the USACE under Section 10 of the Rivers and Harbors act of 1899 and Section 404 of the Clean Water Act. Therefore, these activities would require a permitting package to be submitted to the USACE. NPS is committed to completing required permitting with the USACE, as well as any appropriate mitigation to avoid, minimize, and compensate for impacts with respect to wetlands as the project proceeds to design phases and those details are available for a more detailed evaluation. No elements of this project will move forward without required permits from the USACE.

Ohio SHPO. The Ohio SHPO reviewed the EA and provided its final concurrence with our determination in a letter dated June 8, 2017, including a signed Memorandum of Agreement with stipulations for mitigating effects to the historic resource and for ongoing consultation as the project moves forward to design stages.

Tribal Consultation

At several points during the development of the project, NPS consulted with the ten Indian Tribes having an interest in the CVNP. On August 19, 2016, the NPS and OEPA invited the ten tribes to review and comment on the draft EA and presented them with our preferred action. The Tribes were also formally invited to a public meeting held on September 7, 2016. Only the Miami Tribe of Oklahoma responded, stating that there was no objection to the project and no documented link to a Miami historical or cultural site. The ten Tribes consulted were: Absentee-Shawnee Tribe of Indians of Oklahoma, Delaware Tribe of Indians, Delaware Tribe of Western Oklahoma, Eastern Shawnee Tribe of Oklahoma, Miami Tribe of Oklahoma, Ottawa Tribe of Oklahoma, Seneca Nation of Indians, Seneca-Cayuga Tribe of Western Oklahoma, Shawnee Tribe, and Wyandotte Nation.

Conclusion

Based on a review of the facts and analysis contained in the EA, the selected alternative will not have a significant impact, either by itself or in consideration of cumulative impacts. Accordingly, the requirements of the National Environmental Policy Act, regulations promulgated by the Council on Environmental Quality, regulations promulgated by the Department of the Interior, and the provisions of NPS Director's Order 12 and Handbook have been fulfilled.

It is my determination that the selected alternative does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508 et. seq.), an environmental impact statement is not required and will not be prepared for implementation of the selected alternative.

Recommended:


For Craig Kenkel, Superintendent
Cuyahoga Valley NP

4/29/18
Date

Approved:


Cameron H. Sholly, Regional Director
National Park Service
Midwest Region

2/13/18
Date

Appendix A: Non-Impairment Determination

Appendix B: Agency Consultation

Appendix C: SHPO Consultation

Appendix D: Public Comment

Appendix E: Agencies and Groups Contacted During Public Scoping Activities

Appendix A: Non-Impairment Determination

Non-Impairment Determination

**Non-Impairment Determination
Cuyahoga River Ecosystem Restoration
Canal Diversion Dam Project
Cuyahoga Valley National Park**

National Park Service's (NPS) Management Policies (2006) require analysis of potential effects to determine whether actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values.

However, the laws do give NPS the management discretion to allow adverse impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given NPS the management discretion to allow certain impacts within parks, that discretion is limited by statutory requirement that NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise.

The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources and values. An impact to any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated. Park resources and values that are subject to the non-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them; and

- any additional attributes encompassed by the specific values and purposes for which the park was established.

This non-impairment determination includes a discussion, for each impacted resource analyzed in detail in the associated EA, of why the selected action's impacts will not result in impairment.

Canal Diversion Dam Project

Cuyahoga Valley National Park (CUVA) is not typical of our national parks in that it was created from an urban environment that historically served as a site of resource extraction and as a sink for industrial waste. The park, first a national recreation area, was established in 1974 for the purpose of preserving and protecting for public use and enjoyment the historic, scenic, natural, and recreational values of the Cuyahoga river and the adjacent lands of the Cuyahoga Valley (Public law 93-555, December 27, 1974). The 33,000-acre park's genesis and ongoing management is in part a story of the restoration of the Cuyahoga River valley.

NPS, CUVA, and the Ohio Environmental Protection Agency (Ohio EPA), in partnership with the US Army Corps of Engineers (USACE) and the Ohio Department of Natural Resources (ODNR), partnered to resolve the water quality impairment of the Cuyahoga River caused by the presence of the Brecksville Canal Diversion Dam in the Cuyahoga River.

NPS and its partner agencies have considered a range of alternatives for the modification and/or removal of the Canal Diversion Dam. Working through the National Environmental Policy Act (NEPA) process in consultation with agencies, stakeholders and the public, NPS found that the full removal of the Canal Diversion Dam with Pump Installation is the alternative that best resolves the impairment to the Cuyahoga River while preventing the impairment of the Ohio and Erie Canal, an important park resource. This alternative was selected for implementation because it best meets the project purpose and need.

The selected action will not result in impairment for any of the affected resources discussed in the Environmental Assessment (EA), including fluvial geomorphology, water quality, aquatic wildlife, and cultural resources. Although seminal to the establishment of CUVA, neither the river nor the directly affected portions of the Ohio and Erie Canal are NPS properties. NPS involvement was principally concerned with resolving the impairment of the river at large while avoiding impairment to the downstream portions of the Ohio and Canal in the park, a portion of which is a National Historic Landmark (NHL).

Fluvial Geomorphology

CUVA is located at the confluence of the Allegheny Plateau and the Central Lowlands and is shaped by multiple glaciations. The Cuyahoga River between Akron and Cleveland flows across Devonian and Mississippian shale and Pennsylvanian and Mississippian sandstone. When the area's last glacier receded, about 15,000 years ago, glacial till composed of rock, sand, gravel and clay remained in a wide valley with erodible slopes ranging up to 400-feet high. The fluvial geomorphological characteristics of the river are influenced by natural and manmade modifications within their channels, including the Canal Diversion Dam. These natural processes are influenced by human activity, include erosion, deposition, and sediment transport.

The short-term impacts from the project activity (initial dam removal and construction of pump) will result in a slight increase in sediment release and total suspended solids. The fluvial geologic resources that may be affected by the undertaking are focused on the stabilization of the riverbank soils and the release of any impounded sediment. The sediment will be transported downstream, increasing sediment loading and sediment-associated nutrients, causing an immediate short-term effect. An approximate maximum value of 682.1 yd³ or 947 tons currently exist in the dam pool. Each year the river has transported on average 220,497 tons past the gauging station as measured by water column total suspended solids. The volume of material within the Canal Diversion Dam is therefore negligible in comparison to the overall movement of material in the Cuyahoga River.

Upon removal of the dam, the river system may adjust its width, depth, and slope due to bank erosion and gravel bar building in areas not confined by the infrastructure of the railroad tracks and Towpath Trail. Over the long-term, a free-flowing river will create a more natural substrate, riparian features, and channel form and function. It is reasonable to anticipate that future actions in the project area will continue to include bank stabilization activities along the Towpath Trail and Valley Railway, both of which confine the floodplain. However, in the long-term, the action will result in beneficial impacts to stream flow characteristics because it will restore the river to a free flowing condition and resolve the impairment to its water quality.

Water Resources (Water Quality)

After years of restoration and water quality improvements, the Cuyahoga River is emerging as an outdoor recreation amenity. However, while much improved from its days as the “river that burned,” the river remains listed as an impaired waterbody on Ohio's 303 (d) list pursuant to the Clean Water Act. This is due to organic enrichment, nutrient enrichment, low dissolved oxygen, toxicity, sedimentation, and habitat degradation in the river. The river receives discharges of storm water, combined sewer overflows from the City of Akron, and incompletely disinfected wastewater from areas upstream of CUYA. Storm wastewater is a significant issue within the watershed. Oil and chemical spills and winter road salt runoff are periodic problems. Non-point sources within the watershed include pesticides and fertilizers from residential areas, golf courses, agricultural fields, and ski slopes. Downstream of CUYA's northernmost boundary the watershed is dominated by industry and dense urban development near the city of Cleveland.

The Cuyahoga River serves as the primary water resource within CUYA. Physically removing or modifying physical barriers within the river will have an effect on water quality and streamflow characteristics. The Canal Diversion Dam and upstream dam pool at river mile 20.7 has been identified by the Ohio Environmental Protection Agency as an area in non-attainment of the State of Ohio Water Quality Standard (WQS) for fish and macroinvertebrate communities. By allowing water to be stored in an artificial reservoir, the Canal Diversion Dam has altered the natural flow regime of the river and created a condition of non-attainment.

Dam removal will result in ecological benefits that include the return of a more naturalized flow, temperature regime, and sediment transport to the river system. In turn, this will promote the rehabilitation of native species and the natural migration and movement of species within the river. The natural flow fluctuations are expected to result in an increase in the biodiversity and population densities of native aquatic organisms. The changes identified are considered long-term, beneficial impacts for

water resources. Through restoration of the natural processes, removal of the dam is expected to result in meeting full attainment of the Ohio WQS in the area. For the reasons explained above, the selected action will not result in an impairment related to water quality; in fact, the proposed action will remove impairments to the river's natural function and is expected to improve water quality.

Water Resources (Aquatic Wildlife)

Once the Canal Diversion Dam and the remnant of the Pinery Dam are removed, the dam pool reservoir will be lowered and a natural channel will become established providing habitat such as riffles and glides for fish and sensitive species (e.g. darters). Stored sediment will be released as a result of restored natural flow conditions. This process is expected to produce a slow release of sediment and has been successful with similar projects upstream, where it did not have a significant adverse effect on fish or aquatic life. Removal of the dams will remove the physical barrier to all fish species (native/non-native), thereby potentially improving the diversity of native fish throughout the project area and especially within the former dam pool area. Installation of a pump to divert water into the canal will ensure the Ohio and Erie Canal will remain in a fully watered condition, providing water for aquatic species such as mussels, fish, and turtles. NPS will continue a minimal level of dredging to maintain canal structures. Over the long-term, the action will result in restoration of natural processes in the project area, including the movement of both native and non-native aquatic species, and the potential return of riverine mussel species. Several aquatic listed species of concern (sturgeon and muskellunge) have the potential to return as well. The selected action will not result in an impairment of aquatic wildlife; removal of the dam will restore the natural flow conditions and processes of the river and is expected to result in improvement of diversity and health of aquatic wildlife.

Cultural Resources

The most important and widely recognized collection of resources in the park, the twenty-two miles of the Ohio and Erie Canal corridor generally follows the Cuyahoga River between Akron and Cleveland, bisecting CUVA along its north-south axis. The Ohio and Erie Canal, though manmade, is part of the Cuyahoga River hydrologic system. However, water channeled from the Canal Diversion Dam feeds its northern portion, including a designated NHL. The full removal of the Canal Diversion Dam will restore the natural condition of the river, while the addition of a pump diverting water into the canal to maintain a watered condition will ensure non-impairment of the Ohio and Erie Canal.

When the Canal Diversion Dam is removed completely, the feeder gates will remain in place and the river will be restored to grade levels that provide a natural flow regime. Due to elevation changes in the river level, an active watering system for the canal will be designed to divert a desired and mechanically controlled level of water into the canal. This aspect of the project was developed through consultation with partner agencies, stakeholders and the public to avoid any impairment to the Ohio and Erie Canal. The Ohio EPA will take the project lead in funding, developing installing and operating the active watering system.

The removal of the Brecksville Canal Diversion Dam and the installation of an active watering system in its place will alter the cultural "feel" or character of the immediate project area, including the Feeder Gate Complex. It will introduce a new visual and audible element into the setting. This will also result in the removal of two dams (Canal Diversion Dam and the Pinery Dam) that are contributing elements to the

Ohio and Erie Canal, but will limit the impacts to downstream elements and will ensure that the canal within the NHL will remain in a watered condition. However, NPS and Ohio EPA have entered into a Memorandum of Agreement with the Ohio State Historic Preservation Office (SHPO) to resolve the adverse effects; this will ensure that removal of the Canal Diversion Dam will not impair the Ohio and Erie Canal, a foundation park resource.

Determination

NPS has determined that implementation of the selected alternative will not constitute an impairment to the park's resources or values or violate the NPS Organic Act. This conclusion is based on a thorough analysis of the environmental impacts described in the EA. The project is necessary to fulfill specific purposes identified in the establishing legislation of the park and will protect the natural and cultural integrity of the park. Therefore, there will be no impairment to park resources; instead, the condition of park resources is expected to improve as a result of the selected action.

Appendix B: Agency Consultation

United States Fish and Wildlife Service (November 24, 2009)

United States Fish and Wildlife Service (July 29, 2015)

Northeast Ohio Regional Sewer District (September 20, 2016)

United States Environmental Protection Agency (September 28, 2016)

United States Army Corps of Engineers, Regulatory Branch (October 7, 2016)

Response

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Status: New	Park Correspondence Log:
Date Sent: 11/24/2009	Date Received: 11/24/2009
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

The U. S. Fish and Wildlife Service has completed reviewing the Scoping Information and the Notice of Intent to prepare an Environmental Impact Statement for the Modification/Removal of the Canal Diversion Dam in Cuyahoga Valley National Park, Cuyahoga County, Ohio (Federal Register, Vol. 74, No. 141, July 24, 2009). The EIS will include discussions of the proposed project's potential impacts to environmental, cultural, and recreational resources. The Canal Diversion Dam (also known as the Brecksville Dam, Station Road Dam, or SR 82 Dam) on the Cuyahoga River is owned by the Ohio Department of Natural Resources and is 183 feet long and nearly 8 feet high. The Ohio Environmental Protection Agency (OEPA) has concluded that the dam negatively impacts water quality, alters habitat, is a barrier to fish movements and presents a recreational hazard. In addition, the NPS has concluded that maintaining the water in the canal is also critical because of the important natural, cultural and educational values associated with the watered portion of the canal.

Therefore, the NPS has proposed a preliminary set of alternatives for modification or removal of the Canal Diversion Dam:

- 1) No action—the dam would remain on the river continuing to adversely impact water quality of the Cuyahoga River and provide water to the Ohio and Erie Canal
- 2) Total removal—the dam would be removed, restoring a free-flowing river and water would be provided to the Ohio and Erie Canal to maintain its current watered state; and
- 3) Partial removal/modification—the dam would be altered to allow for restoration of water quality as well as eliminating an existing recreational boating hazard.

The Service has several comments on the preliminary set of alternatives, as proposed. In general, the Service approves of dam modifications which improve accessibility of the river to fish species and improve flow regimes to better reflect natural flows. The Service concurs with the OEPA that the existing dam negatively impacts water quality and interrupts aquatic communities by restricting fish passage. Therefore, the Service recommends total dam removal (option number 2) in order to improve water quality and habitat for fish and aquatic species in the Cuyahoga River and surrounding tributaries. The impacts of such a dam removal would be substantial on surrounding aquatic communities, including the

Cuyahoga River, numerous tributaries of the Cuyahoga River, and Lake Erie for which the Cuyahoga River is a direct tributary. According to the USFWS Barrier Removal Modeling program, removal of the Brecksville Dam would open up 112 miles of stream for upstream fish passage, 46 miles of stream for downstream fish passage, and 0.32 miles of stream for both upstream and downstream fish passage (http://fpdss.fws.gov/modelingBarriersChoose.do?page=barrierIdentify_jsp&method=single&barrierId=5_1214-012). As removing the dam could potentially open hundreds of miles of stream corridor to fish passage, including access to Lake Erie, we anticipate benefits to interjurisdictional fish, a Federal trust species, and therefore we strongly support this alternative.

During project implementation, the FWS recommends that impacts to the stream banks, associated wetland and riparian areas, and the natural stream substrates be avoided and minimized to the maximum extent practicable. These areas provide valuable habitat for a variety of fish and wildlife species, and provide important water quality functions and should be preserved whenever possible. Disturbed stream banks should be restored utilizing natural channel design techniques, including planting of native riparian species. Vegetated riparian zones provide a variety of extremely valuable functions including providing habitat, moderating water temperature, stabilizing banks, limiting erosion, improving water quality, and minimizing impacts of flood events. The use of "hard" engineering structures, such as riprap or concrete, should be avoided within the riparian zone, as they do not provide the same benefits as vegetated areas.

ENDANGERED SPECIES COMMENTS: The proposed project lies within the range of the Indiana bat (*Myotis sodalis*), a Federally listed endangered species. Summer habitat requirements for the species are not well defined but the following are thought to be of importance:

1. Dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas.
2. Live trees (such as shagbark hickory) which have exfoliating bark.
3. Stream corridors, riparian areas, and upland woodlots which provide forage sites.

Male Indiana bats have been documented to occur in the Cuyahoga Valley National Park. Cuyahoga Valley National Park encompasses approximately 33,000 acres of permanently protected habitat within the vicinity of the project site. Therefore, the presence of suitable habitat is not a limiting factor for the bat in this area. However, should the proposed site contain trees exhibiting any of the characteristics listed above, we recommend that they and surrounding trees be saved wherever possible. If they must be cut, they should not be cut between April 1 and September 30. If the trees must be cut outside of this timeframe, further coordination with this office is requested to determine if surveys are warranted. Any survey should be designed and conducted in coordination with the Endangered Species Coordinator for this office.

The project area lies within the range of the bald eagle (*Haliaeetus leucocephalus*). A bald eagle's nest is known to occur within approximately ½ mile north of the project site. The bald eagle has been removed from the Federal list of endangered and threatened species due to recovery, however; this species continues to be afforded protection by the Bald and Golden Eagle Protection Act and Migratory Bird Protection Act. We recommend that the National Park Service document the precise location of the bald eagle's nest and quantify and describe any project impacts (staging areas, restoration work, etc.) that will occur within ¼ mile of the eagle's nest. If impacts will be occurring within ¼ mile of the eagle's nest, we request that you consult with this office further, to identify appropriate avoidance and minimization measures to avoid take of bald eagles. Further, if work is proposed in proximity to the eagle nest, we may request that work at the site be restricted from mid-January through July. This will prevent disturbance of the eagles from the egg-laying period until the young fledge, which encompasses their most vulnerable times.

The project lies within the range of the piping plover (*Charadrius melodus*), a federally listed endangered

species. Due to the project type, location, and onsite habitat, this species would not be expected within the project area, and no impacts to this species are expected.

Should additional information on listed or proposed species or their critical habitat become available or if new information reveals effects of the action that were not previously considered, this determination may be reconsidered. If project plans change or if portions of the proposed project were not evaluated, it is our recommendation that you contact our office for further review.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973, as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy.



UNITED STATES DEPARTMENT OF THE INTERIOR

U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994



July 29, 2015

Margaret Plona
Cuyahoga Valley National Park Service
15610 Vaughn Rd.
Brecksville, Ohio 44141

31420-2010-TA-0021

Re: Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project

Dear Ms. Plona,

We have received your recent June 30, 2015 letter requesting comments about the subject proposal in regards to federally listed species. The proposed project was originally submitted to our office for review November 24, 2009. The purpose of this project is to improve the water quality condition of the Cuyahoga River by the removal or modification of a lowhead dam.

We have reviewed your new Draft EIS. You have provided new comments on the recently listed federally threatened northern long-eared bat. We agree with the determination made for the northern long-eared bat; no tree removal is required for the project, therefore, the project is not likely to adversely affect the federally threatened northern long-eared bat. We have also reviewed our previous comments made in 2009. These comments, with the additional comments for the recently listed northern long-eared bat, are still applicable for the project.

Thank you for reinitiating consultation with our office. If you have any questions, or if we may be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,


for Dan Everson
Field Supervisor



Northeast Ohio Regional Sewer District

September 30, 2016

Bill Zawiski
Ohio Environmental Protection Agency
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087
Email: bill.zawiski@epa.ohio.gov

***RE: Comments in Response to the Cuyahoga River Ecosystem Restoration Canal
Diversion Dam Project Environmental Assessment***

Dear Mr. Zawiski:

The Northeast Ohio Regional Sewer District ("NEORSD") appreciates the opportunity to comment on the Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project Environmental Assessment ("EA"). The NEORSD is a ratepayer-funded public utility that is responsible for wastewater treatment facilities, regional stormwater management, and interceptor sewers across the City of Cleveland and 61 suburban communities. NEORSD's mission is to provide progressive sewage and stormwater management through innovation, fiscal responsibility and community partnerships. NEORSD has reviewed the EA and has the following comments.

As part of its entry into a Consent Decree with the U.S. Environmental Protection Agency, the U.S. Department of Justice, and the Ohio Environmental Protection Agency in 2010, NEORSD agreed to conduct a State Supplemental Environmental Project ("SEP") for operation and maintenance of the canal pump station that would be required to be installed if the National Park Service ("NPS") decided to move forward with removal of the Brecksville Dam/Canal Diversion Dam. The SEP requires NEORSD to assume operation and maintenance of the pump station constructed and installed to maintain flow from the Cuyahoga River to the Ohio and Erie Canal after the Brecksville Dam/Canal Diversion Dam is removed. The District is required to perform these services for a period of twenty-five years.

Review of the EA indicates that the NPS has selected Alternative 3 – Full Removal of Canal Diversion Dam with Pump Installation as its Proposed Action. If this project moves forward using Alternative 3, NEORSD requests that it be involved in the design of the pump station. Specifically with respect to Section 2.2.1 in the EA (Actions Common to all Action Alternatives), NEORSD should be officially listed as a Stakeholder and be included in all

discussions involving planning, design and operation of the pump station. NEORS D has a vested interest in the planning and design of the pump station as they will impact the future operation and maintenance that NEORS D will be responsible for. As a Stakeholder with a vested interest in the future operation and maintenance of the pump station, it is essential that NEORS D be involved with the design of this project.

NEORS D appreciates the opportunity to provide these comments. Should you have any questions, please do not hesitate to contact Tamar Gontovnik at (216) 881-6600 or gontovnikt@neorsd.org.

Sincerely,

A handwritten signature in black ink, appearing to read 'Julius Ciaccia', is positioned above the printed name.

Julius Ciaccia
Chief Executive Officer



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SEP 28 2016

REPLY TO THE ATTENTION OF:

E-19J

Craig Kenkel, Superintendent
National Park Service
Cuyahoga Valley National Park
15610 Vaughn Road
Brecksville, Ohio 44141

RE: Draft Environmental Assessment: Cuyahoga River Canal Diversion Dam (aka Brecksville Dam); Cuyahoga Valley National Park - Summit and Cuyahoga Counties, Ohio

Dear Superintendent Kenkel:

The U.S. Environmental Protection Agency (EPA) has reviewed a Draft Environmental Assessment (Draft EA) under the National Environmental Policy Act (NEPA) for the proposed removal of the Canal Diversion Dam located on the Cuyahoga River within the Cuyahoga Valley National Park (CUVA) in Summit and Cuyahoga Counties, Ohio. EPA has also reviewed public scoping documents posted by the National Park Service (NPS) on NPS's website for this project. This letter provides EPA's comments on the Draft EA, pursuant to NEPA, the Council on Environmental Quality's (CEQ) NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The proposed project site is located in the vicinity of the Canal Diversion Dam (alternately known as the Brecksville Dam, Station Road Dam, or the State Route 82 Dam; hereafter: Brecksville Dam) which spans the Cuyahoga River immediately south of State Road 82 (Chippewa Road) between the City of Brecksville in Cuyahoga County and Sagamore Hills Township in Summit County, Ohio. Brecksville Dam is located in the northern portion of CUVA along the Cuyahoga River at River Mile 20.7. While the project area evaluated under NEPA is approximately 48 acres, CUVA encompasses 33,000 acres in the Cuyahoga River Valley between the metropolitan areas of Cleveland and Akron, within Cuyahoga and Summit Counties. The primary natural feature of CUVA is the Cuyahoga River, travelling 22 of its 100 miles through CUVA as it flows towards Lake Erie. The Cuyahoga River within the CUVA boundary is listed as an Area of Concern (AOC) for the Great Lakes. A Remedial Action Plan developed for the AOC identified 14 beneficial use impairments (BUIs). Over time and currently, the BUIs are being mitigated, which result in "delisting" of the individual BUIs, with the goal of eventually removing the section of river from the list of AOCs within the Great Lakes Basin.

Within CUVA's legislative boundary, NPS owns approximately 19,000 acres. The remainder of CUVA land is owned and under management by other public entities, compatible-use institutions or private parties. Two primary owners of non-NPS land within the project area are the Cleveland Metropolitan Park District and the Ohio Department of Natural Resources (ODNR). Ownership of the Brecksville Dam and surrounding land involves multiple agencies. Specifically, ODNR owns the Brecksville Dam structure and an upstream legacy dam, the Pinery Dam. Cleveland Metroparks owns land adjacent to both dams. NPS manages the lands for visitor use and resource protection, and owns the land occupied by the Ohio & Erie Canal (O&E Canal). NPS also owns the railroad tracks on the west side of the river.

Brecksville Dam is 183 feet long, nearly eight feet high, and serves to divert and feed water into the O&E Canal by gravity through canal feeder gates. The O&E Canal flows north into the Cleveland Metroparks Ohio & Erie Canal Reservation. The watered portion of the canal and its historic features are a National Historic Landmark (NHL). Additionally, due to the collection of buildings, structures, objects and landscape features that run the length of the O&E Canal, this area is designated as a Historic District.

The Brecksville Dam was constructed in 1951 by the Ohio Department of Public Works; the construction of the dam was funded by the then-lessee of several miles of the Ohio and Erie Canal, the American Steel and Wire Company. Brecksville Dam is a replacement of the Pinery Dam. The original Pinery Dam, a wooden-timber crib dam, was first built in 1827. It was constructed to feed water from the Cuyahoga River into the O&E canal to ensure there was a sufficient water source to operate the canal. It was constructed approximately 120 feet upstream of the location of the current Brecksville Dam. At the time, the need for the canal to be operational was to raise investment capital to complete the planned 308 miles of canal system down to Portsmouth, Ohio. The original Pinery Dam was destroyed by flooding in the 1850s and was rebuilt several times in the 1800s and early 1900s. When the Brecksville Dam was constructed in 1951, according to its construction plans, remnants of the Pinery Dam were to be left in-situ with a 20-foot breach to allow water to flow through.

A ground-penetrating radar (GPR) study was undertaken in 2010 to determine if the legacy remnants of the Pinery Dam were still in place, and if so, to locate and delineate its location upstream of the Brecksville Dam. The GPR study confirmed the existence of this legacy dam, as well as an estimate of the sediment locations and depths within the Brecksville Dam pool. From the center of the river channel to the west bank, the river bed substrate is bedrock with little to no sediment accumulation. However, from the center of the river channel to the eastern river bank, greater than 31 inches of muddy fluvial sediment (in some locations) has accumulated on the bedrock substrate.

NPS, in cooperation with the Ohio Environmental Protection Agency (OEPA), the U.S. Army Corps of Engineers (USACE), and ODNR, is considering actions at CUVA to identify the range of alternatives for the modification and/or removal of the Brecksville Dam. The project was initiated because the Cuyahoga River upstream of the Brecksville Dam does not meet aquatic community goals set forth in Ohio's Water Quality Standards (WQS). The Lower Cuyahoga River Total Maximum Daily Load (TMDL) report, as well as previous water quality surveys undertaken by OEPA, have indicated that a cause of nonattainment of the WQS is the presence

of the Brecksville Dam. The TMDL Report recommended that the Brecksville dam be modified or removed to restore water quality in the Cuyahoga River upstream of the structure.

A No-Action Alternative (Alternative 1) and two action alternatives are studied in the Draft EA. Under the No Action Alternative, the existing Brecksville Dam, the feeder gate system, and the remnants of the Pinery Dam (which is submerged beneath the dam pool) would remain in place. Alternative 2 proposes modification of the Brecksville Dam, removal of the Pinery Dam and dredging of approximately one mile of the O&E Canal. Alternative 3 proposes full removal of both the Brecksville Dam and Pinery Dam with installation of a pump to keep the O&E canal in a watered state. Both action alternatives incorporate a design to maintain the canal in a watered condition that will retain the cultural value of the O&E Canal and its NHL designation.

Alternative 3 is NPS's preferred alternative.

In Alternative 3, the concrete structure of the Brecksville Dam, including the wing walls, as well as the remnants of the Pinery Dam, would be removed from the riverbed and channel. The existing feeder gates to the O&E Canal would remain in place, and the river would be restored to grade levels that provide a natural flow regime. Due to elevation changes in the river level resulting from the complete removal of the Brecksville Dam, an active watering system for the canal would be constructed. It would be designed to divert a desired and mechanically controlled level of water into the O&E Canal. This would be accomplished through the installation of a pumping system on the adjacent riverbank to aid in the diversion of the water from the river into the canal, thereby maintaining a watered canal from the Feeder Gate downstream beyond the park boundary. This would maintain the historic significance of the broader O&E Canal landscape, including the entire NHL.

According to a 2007 study by Arcadis, removal of the Brecksville Dam is expected to drop the upstream river pool elevation by 3.58 feet (on average) and will also affect water elevations in the closest upstream tributary, Chippewa Creek. Additional water level drops could be expected in the summertime or under drought or lower flow conditions. Up to 30 feet of bank width is expected to be exposed immediately upstream of the dam. The total impacted area extends nearly three miles upstream from Brecksville Dam.

EPA's comments on the Draft EA focus on the quality of information provided in the document, particularly on wetland and water resource impacts, sediments and sediment release, construction staging and access, the quality of impact analysis, historic preservation, threatened and endangered species, water quality concerns, and mitigation and adaptive management. Our comments are discussed in greater detail in the enclosure to this letter: "*EPA Detailed Comments on the Cuyahoga River Canal Diversion Dam (aka Brecksville Dam) project – Draft EA.*"

EPA appreciates the opportunity to review this Draft EA. We are available to discuss our comments with you in further detail if requested. Please send us a copy of future NEPA documents for this project, including the project's signed decision document. If you have any questions or comments regarding the content of this letter, please contact the lead project reviewer, Ms. Liz Pelloso, PWS, at 312-886-7425 or via email at pelloso.elizabeth@epa.gov.

Sincerely,



Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosure: *EPA Detailed Comments on the Cuyahoga River Canal Diversion Dam (aka Brecksville Dam) project – Draft EA*

cc (via email, with enclosure):

Meg Plona, NPS-CUVA
William Hunter, NPS-CUVA
Nick Chevance, NPS-Regional Environmental Coordinator
Melissa Tarasiewicz, USACE-Buffalo District
Joe Loucek, OEPA
Mark Epstein, Ohio SHPO

EPA Detailed Comments on the Cuyahoga River Canal Diversion Dam (aka Brecksville Dam) Project - Draft EA

September 28, 2016

WETLAND AND WATER RESOURCE IMPACTS

- Implementation of the Preferred Alternative will require direct impacts to the Cuyahoga River and the O&E Canal, and likely will impact wetlands adjacent to the river and/or the canal. Indirect impacts to upstream wetlands due to lowering of the Brecksville Dam pool are also likely. The Draft EA did not acknowledge or quantify any direct or indirect wetland impacts or impacts to other Waters of the United States (such as the River and the canal) associated with any of the alternatives. A Clean Water Act Section 404 permit is required by the U.S. Army Corps of Engineers (USACE) for proposed discharges of dredged or fill materials to Waters of the United States, including wetlands; indirect impacts are also potentially regulated. The Section 404 permit approval is contingent upon the project complying with the Section 404(b)(1) guidelines under the Clean Water Act. These guidelines are summarized as follows:
 - **Least Environmentally Damaging Practicable Alternative (LEDPA)**¹ – There must be no practicable alternative to the proposed discharge (impacts) which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences;
 - **No Violation of Other Laws** – The proposed project must not cause or contribute to violation of state water quality standards or toxic effluent standards, and must not jeopardize the continued existence of federally-listed endangered or threatened species or their critical habitat(s);
 - **No Significant Degradation** – The project must not cause or contribute to significant degradation of Waters of the United States; and
 - **Minimization and Mitigation of Adverse Impacts** – The project must include appropriate and practicable steps to avoid impacts to regulated Waters of the United States. Where impacts are unavoidable, it must demonstrate how impacts have been minimized. Compensatory mitigation must be provided to offset unavoidable, minimized impacts to the aquatic ecosystem.

The Draft EA did not discuss how sequencing established by the Clean Water Act Section 404(b)(1) guidelines has been applied, namely, avoidance first, then demonstration of impact minimization, then mitigation for unavoidable, minimized impacts. A discussion of proposed mitigation for unavoidable, minimized wetland impacts (both direct and indirect) was also not included in the Draft EA.

Furthermore, while wetland impacts were not quantified, the Draft EA states on page 8 that, *“The proposed action alternatives and the lowering of the dam pool will have a minor impact on the adjacent wetlands.”* The term “minor impact” was not defined.

¹ Furthermore, an alternative is considered practicable if “it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” [40 CFR Part 230.3]

Recommendations: The Final EA should include quantified information on the expected direct and indirect wetland impacts as well as direct impacts to the river and canal. The Final EA should also include a robust discussion of proposed mitigation for both direct and indirect wetland impacts, including mitigation ratios, mitigation type, mitigation location(s), etc. This information should align with information provided to USACE for Section 404 permitting and to OEPA for Clean Water Act Section 401 Water Quality Certification. Quantifiable wetland impacts must be based on a current wetland delineation.

- A public PowerPoint presentation given by NPS on October 28, 2009, available in the scoping documents on NPS's website for this project, stated that a wetland delineation was undertaken in the Brecksville Dam pool area. Additionally, page 5 of the Draft EA notes that during scoping and development of the project (in its early stages), a wetland delineation was undertaken in 2009 by EnviroScience. Page 8 of the Draft EA states, "*In 2009, EnviroScience, Inc. performed a delineation and functional assessment of riverine wetlands upstream and downstream of the Canal Diversion Dam. This study included a full delineation of all jurisdictional wetland and other water (streams and ponds) within the site and upstream of the dam for three miles. Palustrine emergent, mixed palustrine, and forested palustrine wetlands receive water from the surrounding areas that drain to the river and from the river following rain/snow events that cause the river to breach the banks. Generally, these wetlands are depressional, above the river level, and extend offsite away from the river into larger complexes.*" The delineation was not found on the project website. EPA notes that all other study documents listed on page 5 of the Draft EA were available for public review and download on the NPS scoping documents page, except for the wetland delineation.

Recommendations: It is unclear if the 2009 wetland delineation was submitted to USACE for review and a jurisdictional determination. Regardless, wetland delineations are only current for five years. A new wetland delineation should be undertaken to determine the extent, type, and acreage of wetlands in the project vicinity, including within the entire upstream footprint of the project (expected pool drop areas along the River, canal, potentially-affected portions of Chippewa Creek, and all staging and access areas). This delineation should be submitted to the USACE Buffalo District for review and a jurisdictional determination. Results of the updated wetland delineation, including a summary of delineated wetlands and their type and acreages (and a map of their locations) and quantified information on expected direct and indirect wetland impacts, should be discussed in the Final EA and should be based on an up-to-date wetland delineation.

- Figure 7 (page 16) shows proposed staging locations. Some of these appear to be in areas that have trees and/or forested area. Without a wetland delineation, NPS cannot state with certainty that wetlands will not be impacted in any proposed staging areas. Due to the scale and scope of Figure 7, it is unclear if the entire area of the proposed scoping areas will be disturbed. It appears from the scope of this figure that trees and vegetated areas will likely be impacted during construction, given the proximity of vegetated areas (and areas that may be wetland) to the area proposed for construction. The Draft EA provided no evidence that

wetlands or other vegetated areas will not be impacted by project implementation. The Draft EA did not include a wetland delineation nor did it include any correspondence from USACE confirming the presence or absence of wetlands in any proposed construction areas.

Recommendation: Again, the Final EA should include a wetland delineation or wetland data points taken adjacent to the boundaries of disturbed/non disturbed areas adjacent to construction sites associated with the Preferred Alternative. Information that confirms the location of any delineated wetlands, such as a delineation and USACE jurisdictional determination, should be included in the Final EA, along with evidence whether wetlands will, or will not, be impacted. The Final EA should also address and include information on construction staging and access, and information on how any wetland areas adjacent to construction areas will be protected from incidental fill during active construction. The Final EA should also discuss any required tree clearing in staging areas, including number of trees to be removed and their size and species.

- The Draft EA does not discuss any compensatory wetland mitigation, and appears to view the Preferred Alternative as “self-mitigating” and that no off-site compensatory mitigation for impacts (either direct or indirect) to wetlands is required or expected. Quantification of direct impacts to wetlands was not provided in the Draft EA. Indirect wetland impacts are also not discussed in the Draft EA. Indirect wetland impacts are attributed primarily to the loss of wetland hydrology associated with the drop in water level in the Brecksville dam pond following dam removal. In addition to potential wetland fill associated with the project, the loss of (via indirect impacts to) wetlands, is of considerable concern to EPA. Many wetland functions and values will be lost if these wetlands revert to upland areas or are filled. While there is a potential for the development of new wetlands in areas currently inundated by the Brecksville Dam pond, there is substantial uncertainty as to the quality, location, and acreage of wetlands that may actually develop post-dam removal.

As there appears to be a net loss of wetland acreage, EPA does not concur that the Proposed Action would be self-mitigating. A similar Ohio dam removal project by another Federal agency reviewed by EPA in 2014 (the U.S. Fish and Wildlife Service’s Ballville Dam removal project on the Sandusky River in Sandusky County) proposed only one dam removal (versus the two dam removals proposed herein). Mitigation for both direct and indirect wetland impacts associated with that dam removal is being required by both USACE Buffalo District and the state regulatory agencies. While NPS is the Federal sponsor for this project, it does not preclude NPS in this project from following the same requirements and standards other agencies are held to under similar projects.

Recommendations: The Final EA should be updated to include specific narrative information on proposed mitigation for direct and indirect wetland impacts. Additionally, EPA recommends that NPS work with USACE and OEPA to develop an acceptable mitigation ratio and mitigation plan to compensate for both direct and indirect wetland impacts that meets requirements of the 2008 Mitigation rule (40 CFR 230) as well as state requirements. Details on mitigation for both direct and indirect wetland impacts (including mitigation ratios, mitigation type, mitigation location(s), etc.), should be included in the Final EA.

- While there is the potential for the development of new wetlands in areas currently inundated by the Brecksville Dam impoundment pool, predictions regarding the exact size, location, and type of newly-formed wetlands post-dam-removal are uncertain. The Draft EA did not provide any substantive commitments to that ensure project implementation results in no net loss of wetlands and is in compliance with Executive Order 11990 (Protection of Wetlands).

Recommendation: EPA encourages additional coordination between NPS and the wetland regulatory agencies to ensure that project implementation does not result in a net loss of wetland. The Final EA should discuss how NPS is in compliance with Executive Order 11990.

- The Draft EIS does not clearly discuss the effect the proposed project will have on lowering the pool elevation behind the dam, including any specific information on how many feet the pool elevation near the Brecksville Dam will be lowered by dam demolition of both Brecksville and Pinery Dams across the length of affected river and tributary lengths. The upstream channel within the former pool would be expected to respond to this new elevation control with a series of adjustments such as upstream knickpoint migration, incision, and subsequent widening until a new stable bed elevation is achieved along the length of the current impoundment. However, there was no discussion in the Draft EA about the potential or likelihood of instability over a period of years as the river adjusts to a new, stable channel. In the interim period, the channel may head-cut, which may induce incision, wasting of banks, and channel widening.

Recommendation: The Final EA should include additional information on fluvial geomorphology changes expected or possible in the new channel as it forms post-dam removal, and the potential for these fluvial processes to affect the proposed restoration efforts.

- Page 46 of the Draft EA states, “*Potential head-cutting and stream bank erosion because of the dam pool water being lowered could indirectly affect adjacent tributaries. There is a potential indirect impact to the east bank of the Cuyahoga River upstream of the Chippewa Creek confluence that is within the dam pool that has a history of bank stability problems. The banks are prone to slumping due to highly erodible soils that become saturated during high flow events and fail during the subsequent drawdowns.*” As noted above, EPA is concerned about the potential for head-cutting. Other than a mention of the potential head-cutting and erosion post-drop of the dam pool elevation, no impact analysis of this potential result was provided in the Draft EA.

Recommendation: The Final EA should discuss the potential for head-cutting, and discuss how NPS has modeled the potential for head-cuts associated with the river’s current geomorphic state. The Final EA should address, in detail, how potential head-cutting will be prevented and/or remedied. Additionally, the Final EA should discuss the potential for erosion due to project implementation. In particular, the Final EA should discuss if or how dam removals will increase the possibility of bank scour or in-stream erosion. The Final EA should also discuss, for each alternative, whether bank erosion

control or in-river grade control measures are necessary and proposed, and if yes, where are they proposed and how are they designed.

SEDIMENTS AND SEDIMENT RELEASE

- The Draft EA did not discuss testing of the sediments impounded behind the Brecksville Dam. No discussion was provided on how a decision was made to release sediments downstream versus excavate them for beneficial reuse or for proper upland disposal. Mitigation of deleterious impacts resulting from the remobilization of previously-impounded sediments may be required. Potential remedial measures may include full or partial removal of impounded materials, staged removal of a dam to control sediment remobilization, and/or stabilizing sediment exposed through dam removal. Based on sediment testing, EPA assumes that sediment analyses will inform how NPS plans to deal with any contaminated sediment (if present at the project site), in addition to removal or plans to control the release of inert sediments.

Recommendation: The Final EA should include sediment testing results confirming whether or not in-river sediments are inert or contaminated, and information on how the determination to flush sediment downstream (versus removing it) was made.

- All action alternatives propose a flushing of accumulated upstream sediment downstream. EPA generally does not support flushing of large quantities of historically-accumulated dam sediments downstream. Depending on the volume and composition of the sediment, spatially-uniform remobilization of sediment may occur as the river channel gradually reestablishes itself through the formerly impounded area. If the volume of sediment is sufficient, however, removal of the dam may not immediately restore the upstream hydraulic gradient. In this case, remobilization of sediments may occur through head-cutting, with the cut progressing upstream. The period of time required for a head cut to reach equilibrium is determined by several factors including, but not limited to, sediment composition, channel-forming flow events, high-flow events, physical characteristics of the channel (e.g., ledge), presence of infrastructure (e.g., pipeline), and whether river channel aggradation has occurred upstream of the impoundment².

Recommendation: The Final EA should include a discussion of sediment dispersion or removal expected as part of any proposed action alternative.

- Alternative 2 (not selected) proposes dredging of a lengthy portion of the O&E Canal. No discussion of sediment testing for any sediments to be dredged from the canal were included in the Draft EA. The Draft EA was missing information expected in a NEPA document for any project proposing dredging of aquatic sediments, including:
 - Canal sediment analyses and a discussion of NPS's plan for disposal of any contaminated or uncontaminated sediments;
 - A map/figure outlining the proposed dredging location(s);
 - Narrative information on the type and quantity (cubic yards) of material proposed to be dredged, and a proposed dredging schedule;

² [http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25\(14\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(14)_FR.pdf)

- Information on prior sediment sampling (prior to 2016) and results of all prior sampling, including a robust discussion of any heavy metals or other contaminants found in the sediments;
- A summary of sediment analyses that clearly states whether sediments to be dredged are suitable for beneficial re-use (i.e., land application, brownfield restoration, upland fill, landfill cover, etc.);
- A discussion of sediment dispersion expected during and post removal.
- Discussion of NPS's plan for disposal of any contaminated sediments. Based on sediment testing, EPA assumes that sediment analyses would inform how NPS plans to deal with contaminated sediment (if present at the project site), in addition to removal of inert sediment;
- Information on the placement location(s) for all dredged sediment; and
- A discussion on how sediment, elutriate, biological, and bioaccumulation testing indicate that in-water placement, if proposed, of these dredged materials will not cause an adverse impact on biota or water quality.

Recommendation: While the Draft EA notes that Alternative 2 was a considered but not-selected alternative, not enough baseline information on this action alternative was provided in the Draft EA. Future NEPA documentation proposing dredging, including dredging of behind-dam sediments, should include discussion and surveys as noted above.

CONSTRUCTION STAGING AND ACCESS

- All action alternatives propose in-river work, with full removal of the Pinery Dam and either modifications or full demolition/removal of the Brecksville Dam. However, the Draft EA is silent on specific information on dewatering, access road details, sequencing, material disposal locations, tree removal, removal of staging roads and materials, and any need for post-construction bank stabilization. Where information was provided, it was minimal at best; many statements were generic, such as the statement (p. 46) that, once the two dams are removed, that in areas of steeper banks, "*slope stabilization or revegetation is needed.*"

Recommendations: EPA recommends that the Final EA include additional information on the following topics:

- Information pertaining to construction access and how work will be done (i.e., construction staging from the river bank vs. in-stream river work). If cofferdams or other temporary dewatering measures are proposed, those measures, their impacts, and the lengths of time they will be installed, should be discussed;
- Information on proposed construction sequencing, including the proposed timeline for this project and the specific proposed steps to accomplish the project;
- A discussion of how NPS plans to deal with non-sediment components if the dam and appurtenant structures are removed, including a discussion on where materials from concrete caps, constructed access roads, and abutments, etc. will be disposed;
- The need for, locations of, and proposed materials to be placed for any bank stabilization efforts in either the River or canal; and

- The potential need for tree clearing or tree removal in proposed staging areas. Specifically, Figure 7 (page 13) shows staging areas in locations that appear to be forested or have trees present. The Final EA should include a commitment to reforest all forested areas proposed to be cleared, using trees native to northeast Ohio.
- All action alternatives propose construction of an access roadway into the river from the east bank to allow construction equipment to access the western side of the dam (inaccessible due to railroad tracks). No specific information on the width, length, or materials to construct a proposed access road was provided in the Draft EA. Additionally, the Draft EA did not discuss placement of any temporary culverts under the access road to allow for maintaining normal river flow while the access road is in use.

Recommendation: EPA supports only the use of non-sediment-producing materials to construct the temporary access road (i.e., no dirt). Additionally, appropriately-sized culverts should be installed in the access road to allow for passage of normal river flow during the time it is in place. These should be discussed in the Final EA.

- The Draft EA was not clear on the final disposal location(s) for concrete and other materials to be removed from the Brecksville and Pinery Dams.

Recommendation: The Final EA should identify the final disposal location for all waste products requiring disposal. The Final EA should also provide assurances that no waste streams will be disposed of in other wetlands or Waters of the United States.

IMPACT ANALYSIS

- As noted earlier in this letter, several categories of impact analysis were prematurely dismissed from inclusion in the NEPA process. Table 1 (Comparative Summary of Impacts by Alternatives) on page 18 therefore excludes a necessary analysis of impacts, including wetland impacts.

Recommendation: Table 1 should be revised in the Final EA to include all impact categories that were prematurely dismissed, including a comparison of wetland acreage impacts and impacts to threatened and endangered species. Revisions to this table should also discuss sediment dredging (Alternative 2) and sediment releases (Alternatives 2 and 3).

- Impacts across the document are generically unquantified and described in imprecise ways. Examples:
 - Page 46 states, "...very little additional bank width will be exposed by the anticipated drop in water surface elevation for most of the river and Chippewa Creek."
 - What does "very little" mean?
 - Page 46 states, "Small amounts of sediment will be released from the dam pool and move downstream."
 - What does "small amounts" mean?

- Page 46 states, *“With the lowering or modification of the Canal Diversion Dam, water levels in the dam pool will be lower, exposing some banks upstream of the dam.”*

- What does “lower” mean?
- What does “some banks” mean?

Recommendation: The Final EA should quantify all impacts (as appropriate), and use descriptive numeric indicators (cubic yards of sediment, feet of water drop, linear feet of bank impact, acreage of impact, etc.) including expected bank impacts, and as noted earlier in this letter, wetland impacts.

- The Environmental Consequences portion of the Draft EA (Chapter 4) fails to include and discuss relevant impact categories for each alternative, including but not limited to, wetlands, threatened and endangered species, fluvial geomorphology changes (head-cutting, etc.), and river and streambanks. This also included a missing discussion of the potential impacts to fish associated with installation of the proposed pump (Alternative 1) and a failure to discuss how the dredging of one mile of the O&E Canal (Alternative 2) would affect mussels in the canal, as the Draft EA discusses the presence of robust native mussel populations within the waterway.

Recommendation: Chapter 4 should be modified in the Final EA, to include and quantify all impacts (as appropriate), and use descriptive numeric indicators (cubic yards of sediment, feet of water drop, linear feet of bank impact, acreage of wetland impact, etc.).

- The Draft EA did not discuss future conditions based on climate change, nor did it reference Executive Order 16393 (Planning for Federal Sustainability in the Next Decade) or the recent final guidance released by CEQ for Federal Agencies on how to consider the impacts of their actions on global climate change in their NEPA reviews.

Recommendations: EPA recommends that the Final EA address the appropriateness of considering changes to the design of the proposal to incorporate greenhouse gas (GHG) reduction measures and resilience to foreseeable climate change. The Final EA should make clear whether commitments have been made to ensure implementation of design or other measures to reduce GHG emissions or to adapt to climate change impacts. Considerations could include:

- A summary discussion of climate change and ongoing and reasonably foreseeable climate change impacts relevant to the project, based on U.S. Global Change Research Program³ assessments, to assist with identification of potential project impacts that may be exacerbated by climate change and to inform consideration of measures to adapt to climate change impacts. (Among other things, this will assist in identifying resilience-related changes to the proposal that should be considered).
- Commitments to specific best practices to minimize GHG emissions from construction and operations. Assess energy efficiency, renewable energy, electrification of equipment, and cleaner diesel strategies for inclusion in planning

³ <http://www.globalchange.gov/>

documents and construction contractor scopes of work. Consider that reducing diesel emissions has the added benefit of reducing black carbon emissions, which have climate-forcing effects orders of magnitude larger than carbon dioxide on a per-mass basis.

- Discussing climate change and assessing ongoing and reasonably foreseeable effects of climate change relevant to the project study area and the proposed project. Use the U.S. Global Change Research Program's National Climate Assessment to inform the discussion.
- Based on the project team's assessment of climate change impacts associated with the project (and consistent with federal policy), incorporating resiliency and adaptation to changing climate conditions into project siting, design, and mitigation decisions.
- Discussing whether the environmental impacts of the project alternatives would be exacerbated by climate change. If necessary, discuss and commit to additional measures to avoid, minimize and mitigate impacts.

HISTORIC PRESERVATION

- Page 29 of the Draft EA mentions a 2008 Programmatic Agreement (PA) between NPS, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. However, the Draft EA does not explain what a PA is, why it was signed, what it is for, and its current status.

Recommendation: The Final EA should include additional narrative information and context on the 2008 PA, including what it is and what it was for. Updates, or proposed or in-progress updates to the PA associated with the current EA should be discussed in the Final EA and included as an appendix.

- Pages 37-38 of the Draft EA note that the Pinery Dam should be considered significant and eligible for listing on the National Register of Historic Places (NRHP). Midwest Archaeological Center (MWAC) at some point (date unspecified in the Draft EA) provided consultation to NPS on the potential for resources eligible for listing on the NRHP within the project's area of potential effect (APE). Furthermore, the Draft EA states, "*MWAC archeologists have found that, based on existing information, the Pinery Dam should be considered significant and eligible for listing on the NRHP. MWAC recommended further documentation of the resource while it is still fully submerged if possible, since the wooden structure is stable in this environment. A certified submerged cultural resource team in advance of any modification or removal of the Brecksville Canal Diversion Dam should undertake the documentation.*" The Draft EA did not provide any additional information on additional documentation of the Pinery Dam as discussed.

Recommendation: The Final EA should discuss NPS's plan for further documentation of the Pinery Dam before its removal including a timeframe and specific commitments to be undertaken.

- NPS correspondence sent to the Ohio State Historic Preservation Office on March 1, 2016, stated, "*The development of Alternative 3 would have no effect to 23 contributing elements to*

the Ohio & Erie Canal, no adverse effect to two resources, and will result in adverse effects to the Canal Diversion Dam and the remnant of the Pinery Dam. Therefore, Alternative 3 will have an adverse effect to contributing elements the Ohio & Erie Canal, but no adverse effect to the Ohio & Erie Canal landscape as a whole, as it preserves the flow of water through the first designated historic portions of the canal and the NHL.” NPS’s correspondence requested concurrence from the SHPO within 30 days. The Draft EA did not discuss this recent correspondence exchange or state if a response from the SHPO was received.

Recommendation: The Final EA should clarify the status of current coordination with the SHPO, including the status of current efforts underway to resolve the adverse effect to the Ohio & Erie Canal, and the status of NPS’s commitment to avoid, minimize and mitigate the adverse effects in a memorandum of agreement (MOA) to be executed prior to approval of the Final EA. If a MOA has been executed, it should be included with the Final EA.

THREATENED/ENDANGERED SPECIES AND CRITICAL HABITAT

- Page 7 of the Draft EA dismisses threatened and endangered species as a topic requiring further consideration in the EA. While informal consultation and scoping (initiated in 2009 and re-evaluated in 2015) with USFWS concluded that no adverse impacts to federally-listed threatened and endangered species would result from implementation of the considered alternatives, it does not mean that the necessary reviews and cross-cutter agency coordination dismiss NPS from considering potential impacts during the NEPA process and analyzing those impacts in the EA. Furthermore, the Draft EA did not include correspondence from ODNR concurring that the proposed action alternatives would not impact any state-listed species.

Recommendation: The Final EA should include correspondence sent to, and responses received from, ODNR stating that the action alternatives as proposed will not impact state-listed threatened or endangered species or their critical habitat.

- USFWS correspondence to NPS dated July 29, 2015, states that USFWS concurs that impacts to the northern long eared bat are unlikely as *“no tree removal is required for the project.”* However, EPA has concerns, as noted earlier in this letter, that tree removal may be required for access and/or utilization of proposed staging areas.

Recommendation: Should tree clearing be required in any access or staging areas, EPA recommends that NPS consult with USFWS regarding potential impacts to listed or eligible species. Updated consultation should be documented in the Final EA.

- During consultation with USFWS in 2009 (pages 78-80 of the Draft EA), USFWS noted, *“A bald eagle's nest is known to occur within approximately ½ mile north of the project site. We recommend that the National Park Service document the precise location of the bald eagle's nest and quantify and describe any project impacts (staging areas, restoration work, etc.) that will occur within ¼ mile of the eagle's nest. If impacts will be occurring within ¼ mile of*

the eagle's nest, we request that you consult with this office further, to identify appropriate avoidance and minimization measures to avoid take of bald eagles." However, the Draft EA failed to note the presence of the eagle nest, its current status, or note any project impacts that may occur within ¼ mile of the nest.

Recommendation: The Final EA should include information as stated in USFWS's correspondence to NPS dated November 24, 2009.

BASELINE AND BACKGROUND INFORMATION/PROJECT DESIGN

- The Draft EA provides very little information on the history of the Pinery Dam or the Brecksville Dam. Specifically, the Draft EA has no discussion of the Pinery Dam, what it was built for, when it was built (and the number of times it was rebuilt over 100+ years), what is still currently in place under the surface of the water, and what the existing legacy dam remnants are made of. Much of the information written by EPA in the narrative portion of the introduction to this letter was found in the scoping documents found on the NPS website and was not provided in the EA itself.

Recommendation: The Final EA should include a more robust discussion of both the Brecksville and Pinery Dams, including a discussion that the Pinery Dam is a legacy dam and more about its history.

WATER QUALITY

- The project is located within the Cuyahoga River AOC. While the Draft EA mentions this, there is no explicit discussion of how implementation of the preferred alternative would work towards improving water quality and eventual delisting of the AOC's BUIs. Several BUIs relate to fisheries, including loss of fish habitat and degradation of fish populations, likely due in part to the impediment of the existing dams in the project vicinity.

Recommendation: The Final EA should discuss how implementation of the preferred alternative could or would affect existing BUIs.

- The Cuyahoga River, designated as a National Heritage Corridor in 1996 and as an American Heritage River in 1998, is also specifically listed as impaired (i.e., not meeting water quality standards) on Ohio EPA's Clean Water Act Section 303(d) list of impaired waterbodies. A Total Maximum Daily Load (TMDL) report was completed in 2003 for the Lower Cuyahoga River watershed, and the report noted that the primary causes of impairment in the Lower Cuyahoga River watershed are organic enrichment, nutrient enrichment, low instream dissolved oxygen, toxicity, sedimentation, and habitat degradation.

Recommendation: The Final EA should provide information on the current impairments listed for the Lower Cuyahoga River, and describe how implementation of the proposed project could potentially affect the waterbody (with regard to specific listed impairments and aquatic life use standards).

MITIGATION AND ADAPTIVE MANAGEMENT

- As no formal mitigation was proposed in the Draft EA, there was no information provided on mitigation and adaptive management post-dam-removal.

Recommendation: The Final EA should include a monitoring and adaptive management plan. The plan should include a description of proposed monitoring activities at wetland development sites upstream of the dam and any formal mitigation sites, including quantifiable and measureable success criteria for all ecosystem restoration work, and should specify the length of the monitoring period(s). Additional information on the party(ies) who will maintain mitigation/restoration sites in perpetuity should also be included.

CORRESPONDENCE

- It is not clear if the Draft EA included NPS's correspondence to all other resource agencies, and not all responses from agencies were included with the Draft EA.

Recommendations: For all environmental impact categories requiring coordination with other Federal or state agencies, EPA recommends that you provide copies of both your letters to those agencies, as well as the responses from those agencies, in the Final EA. Please include a complete copy of the wetland delineation and USACE regulatory correspondence (e.g., jurisdictional determination) with the Final EA.



DEPARTMENT OF THE ARMY

BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF

October 7, 2016

Regulatory Branch

SUBJECT: Pre-Application Consultation for Department of the Army Processing Number 2002-02229

RE: USACE Regulatory Branch comments on Environmental Assessment for Canal Diversion Dam Project – Cuyahoga Valley National Park – Summit and Cuyahoga Counties, Ohio

Mr. Craig Kenkel, Superintendent
Cuyahoga Valley National Park
15610 Vaughn Road
Brecksville, OH 44141

Dear Mr. Kenkel:

This letter is in response to the Environmental Assessment (EA) dated July 2016 for the Canal Diversion Dam Project. The project involves the proposed removal and/or modification of the Canal Diversion Dam in the Cuyahoga River located in Cuyahoga Valley National Park (CUVA) south of the Brecksville-Northfield High Level Bridge (State Route 82 bridge) between the City of Brecksville in Cuyahoga County and the Township of Sagamore Hills in Summit County, Ohio.

Under Section 10 of the Rivers and Harbors Act of 1899, and Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has regulatory authority over construction, excavation, or deposition of materials in, over, or under navigable waters of the United States (WOUS). Under Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into WOUS including wetlands. The proposed project involves activities regulated by USACE. A permit application package for the proposed project has not been received to date. Please provide a complete permit application package to this office for evaluation. An electronic permit application form is available on our website: <http://www.lrb.usace.army.mil/Missions/Regulatory/Application-Forms/> A blank copy of the permit application form and instructions is also enclosed. If you are not ready to submit an application at this time and would like to schedule a pre-application meeting please feel free to contact Ms. Melissa Tarasiewicz of this office (contact information below).

The EA (Sect. 1.4.2, pg. 8) indicates that a wetland delineation was completed by EnviroScience in 2009 for the site and the area extending upstream of the Canal Diversion Dam for three miles. This office did not receive a copy of the wetland delineation report and has not issued a jurisdictional determination for the project. An up-to-date wetland delineation detailing current site conditions in accordance with the USACE 1987 Wetland Delineation Manual and Northcentral-Northeast Regional Supplement needs to be provided to this office for review and to enable the USACE to make a jurisdictional determination. The EA (Sect. 1.4.2, pg. 8)

Regulatory Branch

SUBJECT: Pre-Application Consultation for Department of the Army Processing Number 2002-02229

identifies wetlands as an "Impact Topic Dismissed from further Consideration". Based on the lack of information in the EA pertaining to wetland impacts proposed, the degree to which wetland impacts should be analyzed in the EA is unclear.

The EA must quantify and provide a detailed description of direct and indirect impacts (both temporary and permanent) to waters of the U.S., including:

1. The EA (pg. 8) states that: *"Additional hydrologic studies for this project (Arcadis 2007) report that with the removal of the Canal Diversion Dam the surface water elevation will drop on average up to 3.58 feet immediately upstream of the dam. Very little additional bank width will be exposed by this anticipated drop in water surface elevation for most of the river and Chippewa Creek. The proposed action alternatives and the lowering of the dam pool will have a minor impact on the adjacent wetlands"*.
 - 1a. Please identify acreage of wetlands filled, drained, and/or lost through conversion from one type of wetland to another (e.g. conversion of palustrine forested to palustrine emergent wetlands), or conversion from wetland to upland.
2. The EA (pg. 46) states that: *"Based on recent studies, there is little to no sediment accumulation from the center of the river channel to the west bank of the bedrock streambed floor. From the center of the river channel to the east bank, there is muddy fluvial sediment that has accumulated above the bedrock, from a minimum of 8 inches to greater than 32 inches in depth near the feeder gate (Bates and Peck 2010). Following dam removal, there will be a direct, slow release of sediment that has been trapped by the dam. The sediment will be transported downstream, increasing sediment loading and sediment-associated nutrients, causing an immediate short-term effect. From a regulatory standpoint, results from the Ohio EPA's Laboratory Organic Analysis Data Report on sediment samples collected and analyzed from the dam pool in 2009 show no cause for concern of contaminated sediments being released downstream (Ohio EPA 2009)"*.
 - 2a. Please clarify the volume and composition of sediment to be released downstream.
 - 2b. Provide data and analysis of the effect of the release of sediment from behind the dam on stream geomorphology, water quality, and biota.
 - 2c. How was it determined that it is preferable to release sediment downstream versus dredging sediment from behind the dam and disposing of the material at an appropriate upland site?
 - 2d. Please provide this office a copy of the 2009 'Ohio EPA Laboratory Organic Analysis Data Report'.
3. The EA (pg. 46) indicates that *"In areas of steeper banks, slope stabilization or revegetation will be needed"*.
 - 3a. Please clarify any specific areas where bank stabilization is proposed, identify linear feet of bank impact, and provide the area (square feet) and volume (cubic yards) of fill below the ordinary high water mark (OHWM).
 - 3b. The EA (pgs. 45-46) indicates that one site located within the dam pool on the east bank of the Cuyahoga River upstream of the Chippewa Creek confluence was

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categorized as "moderate" for encroachment risk and bank erosion. Is bank stabilization proposed at this location?

4. The EA does not discuss compensatory wetland mitigation. Given wetland impacts were not quantified in the EA the extent of direct and indirect wetland impacts is unclear. Therefore, the amount and type of compensatory mitigation required (if any) to off-set wetland loss cannot be determined. Quantification of wetland loss needs to be provided to enable an analysis of compensatory mitigation to be included in the EA.
5. USACE agrees with USEPA's comment provided to CUVA via letter dated September 28, 2016 in response to the EA that, "Impacts across the document are generically unquantified and described in imprecise ways..." USACE concurs that the EA should quantify impacts (e.g provide cubic yards and acreage of dredging, acreage of wetland fill, linear feet of bank stabilization, etc.) where appropriate.
6. The EA (pg. 9) indicates that informal consultation and scoping (initiated in 2009 and re-evaluated in 2015), with the USFWS concluded that no adverse impacts to threatened or endangered species would result from implementation of the considered alternatives. The EA (pg. 9) indicates no tree clearing is proposed in any of the alternatives. However, it is unclear if tree clearing would be required to provide construction access to the project area. If tree clearing is required, the project should be re-evaluated for potential impacts to threatened and endangered bat species pursuant to Section 7 of the Endangered Species Act.
7. A coordination letter dated 1 March 2016 from CUVA addressed to the Ohio Historic Preservation Office (OHPO) was included as Appendix C of the EA. In this letter CUVA requested OHPO concurrence that Alternative 3 will result in an "*adverse effect*" to the Ohio and Erie Canal through the removal of the Canal Diversion Dam and Pinery Dam remnant, contributing elements to the canal landscape. Additionally, the letter indicates the direct APE for Alternative 3 will be subject to archaeological investigations/ monitoring, the results of which will be used to support a finding of National Register of Historic Place (NRHP) eligibility and effect, and will inform the final design as coordinated with OHPO prior to project construction. Further, the letter specifies that the NPS and Ohio EPA will continue consultation to resolve the adverse effect, and will record the agency commitment to avoid minimize, and mitigate the adverse effect in an MOA executed prior to approval of the EA.
 - 7a. Was concurrence received that OHPO concurs with the effects determination?
 - 7b. What is the status of the MOA?
8. Further clarification of the project alternatives is needed and should be included in the EA as appropriate. Please provide the following additional information with your application package including (but not limited to):

Alternative 2 (Modification of Canal Diversion Dam with Canal Dredge)

 1. Provide data and analysis of the effect of release of sediment from behind the dam on stream geomorphology, water quality, and biota.

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SUBJECT: Pre-Application Consultation for Department of the Army Processing Number 2002-02229

2. Provide drawings and dimensions (length, width, height in feet) of the partial and/or lower dam to be constructed.
3. Provide the proposed volume (CY), area (acreage) and depth (feet) of dredging of the Ohio and Erie Canal.
4. Provide cross section drawing(s) with dimensions of the proposed dredging activity.
5. Provide a location map indicating where dredge material will be disposed.

Alternative 3 (Full Removal of Canal Diversion Dam with Pump Installation (Proposed Action))

1. Provide data and analysis of the effect of release of sediment from behind the dam on stream geomorphology, water quality, and biota.
2. Clarify the location where the pump house is proposed to be installed.
3. Provide detailed drawings with dimensions of the pump house.
4. Provide the volume (CY) and area (square feet) of fill below the Cuyahoga River OHWM for construction of the pump house.

Information requested associated with both Alternatives 2 and 3

1. Provide detailed plan view and cross section drawings with dimensions of the existing site conditions and proposed work.
2. Provide a drawing with dimensions depicting the extent of the dam pool.
3. Provide the approximate volume (CY of material and dimensions (square feet)) of the Pinery Dam to be removed from below the Cuyahoga River OHWM.
4. Provide additional information pertaining to any proposed bank stabilization including drawings and dimensions (linear feet, square feet, and cubic yards) of fill proposed below the ordinary high water mark (OHWM).
5. Clarify any proposed impacts to waters of the U.S. associated with construction equipment staging, access roads, and stream bank grading for construction access.
6. Provide a location map indicating where dam debris would be disposed.
7. Provide further details including a drawing and dimensions of any proposed cofferdam, temporary work pad, etc. to be installed in a water of the U.S.

Thank you for the opportunity to provide these comments.

Questions pertaining to this matter should be directed to me at (716) 879-4159, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207, or by e-mail at: melissa.j.tarasiewicz@usace.army.mil

Sincerely,



Melissa Tarasiewicz
Biologist

Enclosures

USEPA and USCOE comments and response – United States Environmental Protection Agency (September 28, 2016) and United States Army Corps of Engineers, Regulatory Branch (October 7, 2016) reviews.

Comment

There were several comments raised regarding the date when the wetland delineation was conducted. A wetland delineation is valid for a period of 5 years following USACE verification.

Response

It is understood that for a wetland delineation there is a limited time it remains valid. The purpose of the delineation was to aid the IDT team in working through the EA process. The EA is not a permit document, it is a planning document used to assess and interpret possible outcomes related to the Canal Diversion Dam and Cuyahoga River restoration potential. When an application is prepared for submittal to the U.S. ACOE, a current delineation will be included with the application.

Comment

Comments were presented on the need to discuss wetland mitigation in greater detail in the EA.

Response

Wetland mitigation is a permit issue. Discussion of mitigation within the context of this EA is premature as there is no application pending. Section 2.2.1. states that coordination will take place with the USACE for any permits required.

Comment

There were comments relating to the definition of “minor” in relation to wetland impacts leading to the dismissal from further consideration in Section 1.4.2. of the EA.

Response

Wetland impacts were dismissed as minor during the EA process. In the context of restoring the Cuyahoga River, removal of the Canal Diversion dam will restore the Lake Erie connection of almost 24 miles of the river. In any restoration context this is significant. Wetlands have the potential to be impacted but as previously mentioned any impacts would be minor. The 2009 wetland delineation report identified 125.022 acres of wetlands along the river section evaluated, with 8.143 acres of ACOE jurisdictional wetlands within the study area. Additional language was placed in Section 1.4.2. discussing mitigation.

The 2007 HEC-RAS study evaluated flow and water surface elevations under existing and proposed scenarios. Table 2 in that report presents the data. Wetlands identified in the delineation were assigned a river mile location which could then be compared to a river mile location in the HEC-RAS report, allowing evaluation of wetlands in relation to anticipated elevation changes. Based on the model, wetlands 3 thru 32 (upstream) will experience an average water elevation change of a maximum of 1.2 inches, the total area of these wetlands is 76.911 acres with 5.303 acres within the study area beginning at river mile 24.361 thru river mile 22.3.

Further downstream (river miles 22.224 through 22.033), wetlands 33-41 will experience an average water elevation change of a maximum of 6.9 inches, the total area of these wetlands is 26.725 acres with 1.028 acres within the study area.

Between river miles 22.033 and 20.963 there is a modeled elevation change up to two feet. Wetlands 42-59 are within this area representing a total area of 18.397 acres with 0.984 acres within the study area.

The lowest section of the stream, river mile 20.963 to the dam at river mile 20.68 will have an average water surface elevation change up to 3.58 feet at the dam. Wetlands 60 thru 65 are in this section representing a total area of 2.852 acres with 0.785 acres within the study area.

Several of these wetlands identified in the 2009 report (From Table 8 numbers: 5,12, 32, 34,35,38,41,57 and 65) are actually outside the 100yr floodplain and likely to experience no change related to a change in river elevation. The total area of these wetlands is 48.045 acres with 1.263 acres within the study area.

If the above wetland data is evaluated based on likelihood of impacts, the upper group of wetlands in the dam pool/HEC-RAS study area and wetlands outside the 100yr floodplain total 103.737 acres with 6.324 acres in the study area these wetlands are not likely to experience any adverse impacts due to changes in the average water surface water elevation resulting from dam removal. This represents 82.9% of the total wetland area and 77.6% of the wetlands in the study area.

Several wetlands are located within the channel itself, identified as wetland numbers (from Table 8 in the delineation report) 4,9,20,22,33,42, and 46. The first four are located in the upper dam pool and already accounted for. Wetland numbers 33, 42, and 46 will potentially increase as the channel decreases in width following dam removal. The potential change in average surface water elevation near wetland 33 is under 1.4 inches, while the change near wetlands 42 and 46 is under 1.34 feet. Wetland 33 is not likely to experience an adverse impact and will possible increase in size following dam removal, adding 0.161 acres to both wetland acreage totals. It is unclear as to the actual impacts likely associated with wetlands 42 and 46. The river channel is incised throughout the dam pool. It is possible that these wetlands will experience no change following removal of the dam pool. Several wetland areas (numbers 60,61,62, and 63) are actually within Chippewa Creek, a tributary to the Cuyahoga. The total area of these wetlands is 0.847 acres, all within the study area. As they are in Chippewa Creek, the intent of this restoration project is to not have an impact on this tributary. Wetlands 61,62, and 63 are at a point alongside and upstream of a riffle and likely to see no elevation change following dam removal. Wetland 60 is near the mouth of Chippewa Creek, likely to remain stable yet possibly impacted as the mouth elevation will adjust to the new grade. Chippewa Creek is experiencing changes in flow patterns as a result of increasing development pressure resulting in greater flashiness and increases in the amount of sand-dominated bedload delivered to the stream.

The above comments should help to elucidate the thought process resulting in the dismissal of wetland impacts for further review. Any impacts, if there will be any, will be minor. The Section 401/404 permitting process as well as the Section 10 process are the appropriate regulatory lens to evaluate this project.

Comment

There were several comments related to project implementation. These included project sequencing and project staging locations. Comments indicated that these items were not discussed in adequate detail.

Response

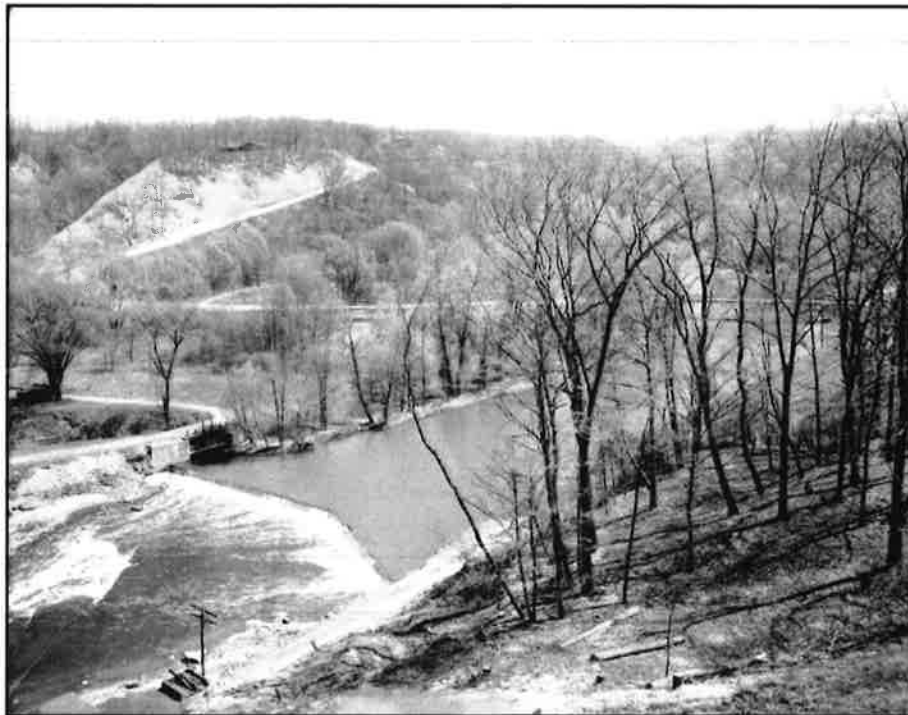
This EA is a planning document designed to assess and evaluate the project in relation to resources within the Cuyahoga Valley National Park. The EA is not a design and or construction plan nor is it a permit application. The restoration project will be proposed to accept bids from qualified professionals capable of performing the work. The preferred method for the project will be a design/build process as our local experience has found this works well for these types of restoration projects. We will specify in the request for proposals that our goal is to minimize and avoid if possible additional natural resource impacts, and any action beyond the scope of the selected alternative will developed through the NPS environmental process. Allowing professional stream restoration practitioners to submit bids based on their experience and interpretation of existing conditions will result in a more robust process, free from any limitations resulting from the EA. All bids will be reviewed and a contract awarded to the proposal which best meets the project goals. Minimizing any and all impacts will be a goal and is best addressed through the actual design/build project process. The comments have been adequately addressed in the EA, no changes are needed.

Comment

The Draft EIS does not clearly discuss the effect the proposed project will have on lowering the pool elevation behind the dam, including any specific information on how many feet the pool elevation near the Brecksville Dam will be lowered by dam demolition of both Brecksville and Pinery Dams across the length of affected river and tributary lengths. The upstream channel within the former pool would be expected to respond to this new elevation control with a series of adjustments such as upstream knickpoint migration, incision, and subsequent widening until a new stable bed elevation is achieved along the length of the current impoundment. However, there was no discussion in the Draft EA about the potential or likelihood of instability over a period of years as the river adjusts to a new, stable channel. In the interim period, the channel may head-cut, which may induce incision, wasting of banks, and channel widening.

Response

There is no anticipation of a knickpoint forming following removal of the Canal Diversion Dam. As can be easily noted in the historic photo below, the Canal Diversion Dam sits atop a natural bedrock outcrop. The photo below depicts the Pinery Dam. The Canal Diversion Dam was constructed downstream of the exposed bedrock. Additional information and clarification on this comment was added to section 4.2.3.3



Comment

There were several comments received related to sediment accumulated in the dam pool. One group of comments was about the chemical composition of the sediment accumulated behind dam pool; other comments concerned the volume of the sediment accumulated behind the dam. Two responses are given below: Response 1 addresses the questions of sediment composition and Response 2 addresses the question of sediment volume.

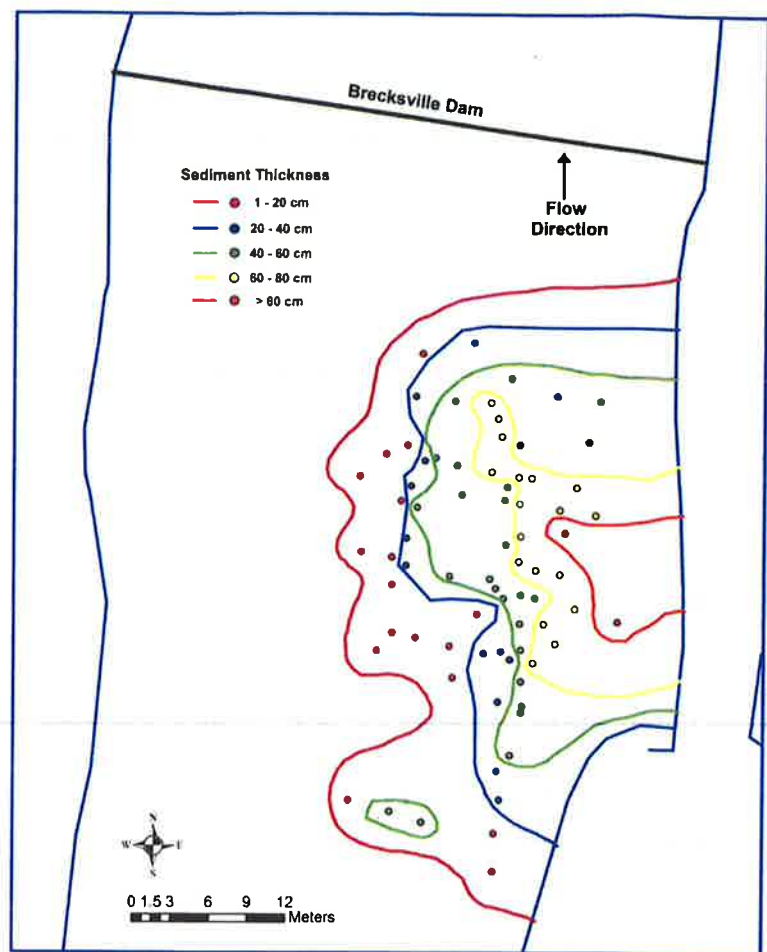
Response 1

Concerning the chemical make-up of the sediment, there is no anticipation that sediment will need to be removed for management due to regulatory concerns. Sediment samples were collected in 2009 and analyzed for the standard sediment assessment parameters by the Ohio EPA. The results indicate the material is typical of sediment commonly found in the Cuyahoga River upstream of the ship channel. As the data is currently greater than 5 years old, additional sediment samples will be collected for analysis in 2017.

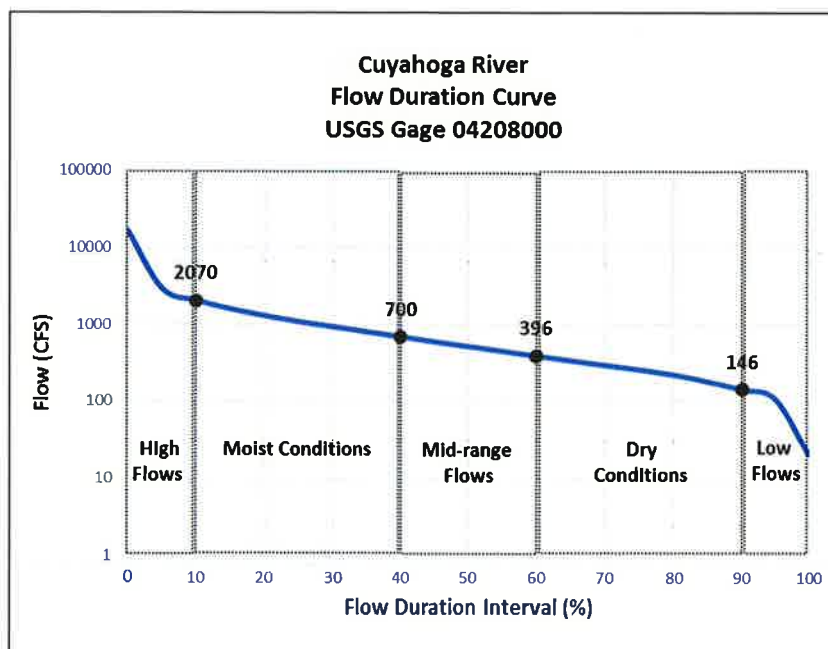
Response 2

Alternative 3 (proposed action) involves removal of the dam and restoration of natural bedload transport within the Cuyahoga River. No sediment removal is proposed for the project. Section 4.2.3.2 of the EA was expanded to include additional discussion related to sediment transport. This additional discussion includes an analysis of suspended sediment loads in the Cuyahoga River. The analysis is consistent with predicted beneficial outcomes related to the Cuyahoga River following dam removal.

Sediment thickness in the dam pool was evaluated as part of a 2010 study (Peck 2010) utilizing ground penetrating radar to delineate the Pinery Dam. Sediment thickness is depicted in the diagram to the right, taken from the Ground Penetrating Radar Survey Report mentioned above. The thickest sediment is located near the intake gates for the Ohio and Erie Canal. Based on the information provided in the 2010 study, a volume of 521.5 m³ can be conservatively calculated within the lower section of the dam pool. This can also be expressed as 682 cubic yards or approximately 947 tons.



In order to put this volume of material into perspective a flow duration curve was developed for the Cuyahoga River using the USGS Independence gage. The curve utilized gage data from 1921-2016 comprising 31,609 data points. A flow duration curve ranks daily flow values based on percent exceedance of a certain value. A curve was developed using USEPA's "An Approach for Using Load Duration Curves in the Development of TMDLs" (USEPA 2007). In addition to flow data, total suspended solids (TSS) was also monitored at the gage, although not for every flow value. A discharge load value could be calculated for TSS



discharge at the gage. There were 16,535 data points where TSS was monitored along with flow. This data represents 1260 results in the low flow interval, 5158 in dry conditions, 3422 in mid-range flows, 5080 in moist conditions and 1615 within the high flow interval. The loads calculated are included in the following table. Loading calculations indicate that on days with elevated flows, exceeded 40% of the time, on average, 1,441 tons of suspended solids are moving past the Independence gage each day. This includes mostly fine particle sizes generally originating from resuspension, channel erosion, and nonpoint sources. Data was also examined from the National Center for Water Quality Research at Heidelberg University. They have monitored TSS almost daily at the USGS independence gage (89.6% of the days between 1982 and 2015). Based on their data, the average daily amount of TSS passing by the USGS Independence gage is 604 tons. Using the Heidelberg data to generate loading calculations indicated that on days with elevated flows, exceeded 40% of the time, on average, 2,168 tons of suspended solids are moving past the Independence gage each day. From an environmental standpoint the volume of fine sediment is minimal and does not pose an ecological risk to the Cuyahoga River. Reestablishing a free-flowing river will also restore the natural sediment transport function of the river.

	Average Load (t/day)
Low Flows	5
Dry Conditions	20
Mid-range Flows	74
Moist Conditions	411
High Flows	4685

Comment

One comment was received regarding the effect of the proposed alternative s on climate change and Executive Orders 13423 and 13514

The NPS acknowledges that climate change may threaten the very cultural and natural resources we strive to preserve. Our response to a changing climate must include the many federal and NPS-specific directives and guidelines that have been developed to encourage action around adaptation and mitigation to climate change. These directives and guidelines include the Federal Executive Orders 13423 (Strengthening Federal Environmental, Energy, and Transportation Management) and 13514

(Federal Leadership in Environmental, Energy, and Economic Performance) and the Department of the Interior (DOI) and NPS policies, plans, and strategies such as the 2012-2014 Climate Change Action Plan, Green Parks Plan and Climate Change Response Strategy.

According to the 2014 National Climate Assessment Report, Ohio and the Great Lakes region are vulnerable to climate variability and climate change. "Direct effects will include increased heat stress, flooding, drought, and late spring freezes which will amplify existing risks climate poses to people, ecosystems and infrastructure. Climate change also alters pests and disease prevalence, competition from non-native or opportunistic native species, ecosystem disturbances, land-use change, landscape fragmentation, atmospheric and watershed pollutants, and economic shocks such as crop failures, reduced yields, or toxic blooms of algae due to extreme weather events. Extreme rainfall events and flooding have increased during the last century, and these trends are expected to continue, causing erosion, declining water quality, and negative impacts on transportation, agriculture, human health, and infrastructure." (Retrieved from <http://nca2014.globalchange.gov/highlights/regions/midwest#intro-section-2>)

The Cuyahoga Valley National Park Climate Action Plan projections indicate that increasing temperatures and changing precipitation patterns will alter park ecosystems, changing vegetation communities, habitats available for species, and the experience of park visitors. Historic structures, park infrastructure and riverbank failures are at risk from potential increase in flooding. In the last decade CUVA has experienced numerous flooding events that, while they cannot be attributed directly to climate change, have been frequent and severe enough to fit the modeled impacts from a changing climate (Cuyahoga Valley National Park, Climate Action Plan, 2013).

Effects of the proposed alternative on climate change

As a participant in the Climate Friendly Parks program, CUVA belongs to a network of parks nationwide incorporating climate friendly practices into planning and development. As part of this program, CUVA has conducted a Green House Gas (GHG) emission inventory and set a GHG emission reduction goal. These efforts have led to the development of the Cuyahoga Valley National Park Climate Action Plan that includes strategies and actions to adapt to and mitigate impacts from climate change. CUVA staff used the Climate Leadership in Parks (CLIP) tool developed by the NPS Climate Friendly Program in association with the U.S. Environmental Protection Agency to account for GHG emissions specific to national parks. The tool is designed to:

- Convert energy and resource use data into metric tons of carbon dioxide (CO₂) equivalent (MTCO₂E). In order which is a single unit that standardizes carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄).
- Educate park employees about the sources of GHGs, and the emissions inventory process through data gathering
- Assist with identifying strategies for each park to reduce emissions
- Enable park personnel to track current and future progress toward emissions reduction goals.

The CLIP tool automatically converts the park's data into Metric Tons Carbon Dioxide Equivalents (MTCO₂E). The conversion to MTCO₂E is based on the potential of a specific GHG to contribute to the greenhouse effect, or its global warming potential (GWP), relative to the potential of CO₂, which is given the GWP of 1. The GWP of CH₄ is 21, meaning that an equivalent amount of CH₄ has 21 times the potential of CO₂ to cause global warming. The output of the CLIP tool is the Park's emissions profile, which was used to prioritize GHG emission reduction strategies.

GHG emissions from park operations totaled 1,635 MTCO₂E. Carbon dioxide equivalent takes into account that some gases have a greater potential to warm the earth's atmosphere than others. For comparison, a typical single-family home in the U.S. produces 12 MTCO₂E per year according to the U.S. Environmental Protection Agency, so park operations alone are equivalent to about 136 homes. If both park activities and visitor emissions are counted, then the total emissions were calculated to be 7,516 MTCO₂E, or about 626 homes.

Alternative 3 proposes the full removal of the canal diversion dam with the installation of a pump to divert water when necessary into the historic Ohio & Erie Canal. While the precise design/build of the pump is yet to be determined the use of screw pump was evaluated for projecting potential GHG emissions. If a 60" – 3 Flight Screw Pump is utilized the electrical usage of 32.4 bHp to pump 9146 gallons per minute to 0.58 MW-hrs. / day. Utilizing the information published in a report entitled "U.S. EPA E-Grid, 2002, EIA Electric Power Annual 2001, 2003" multiplying 1392 lbs CO₂ / MW-hr by 0.58 MW-Hrs / Day would equal a CO₂ discharge rate of 696 lbs CO₂ / day equaling 254,040 lbs CO₂ OR 115 metric tons of CO₂ per year.

While it is recognized that the installation of an electric powered pump will increase GHG emissions of the park's operation, it is anticipated that the pump would not be running daily, year round, but only used during periods when water was needed to maintain flow in the canal. The 115 metric tons of per CO₂ year is a maximum estimated level, which equates to less than what 10 single family homes produce. The park would commit to mitigation measures (e.g. enhanced energy efficiency, lower GHG-emitting technology, carbon capture, carbon sequestration) as reduction and mitigation of GHG emissions park goal. Best practices and commitments to minimize GHG emissions from construction and operations would be included in mitigation efforts. Energy efficiency, renewable energy, electrification of equipment, and cleaner diesel strategies will be included in planning documents and construction scopes of work.

In addition to the emission and energy reduction goals, the park will implement strategies that: (1) identify and implement mitigation actions to reduce GHG emissions resulting from activities within and by the park; (2) increase climate change education outreach efforts; (3) continue reforestation efforts in the park which have the benefit of carbon capture and carbon sequestration (forest and wetland restoration); and, (4) actions to anticipate and adapt to a changing climate.

Effects of Climate Change on the Proposed Alternative

Discussing whether the environmental impacts of the project alternatives would be exacerbated by climate change. Particularly how climate change may change an action's environmental effects; how would a changing climate impact the proposed action and any action alternative or change the action's environmental effects over the lifetime of those effects.

Climate change threatens CUVA's unique cultural and natural resources and infrastructure critical for park operations, and impacts visitor's experiences. With predictions of increasing temperatures and changing precipitation patterns we expect to see more frequent storms of greater duration that will cause flooding. While the present dam structure does not cause flooding or improve flood storage capacity, the removal of the structure will not be impacted by the effects of a changing climate. However, increased flooding events at CUVA in the last decade have damaged historic structures and built infrastructure and caused riverbank failures along the towpath trail and scenic railway.

Increasing temperatures and changing precipitation patterns will alter park ecosystems, changing vegetation communities, habitats available for species, and the experience of park visitors. To mitigate the impacts of climate change, CUVA is restoring native habitats with an emphasis on invasive species removal, re-vegetation with a diverse mix of native species, and targeting efforts that maintain forest continuity, reduce fragmentation and ensure connectivity between habitats.

In the proposed alternative, designing and adapting the pump structure or changing park operations in anticipation of flooding or periods of drought due to climate change will be necessary. Currently CUVA has a strategy to use hardened support systems under and immediately adjacent to historic structures and infrastructure adjacent to areas prone to repeated flooding (such as Towpath Trail, railroad bridge abutments, etc.). CUVA is also incorporating climate adaptation into all levels of planning and development by implementing river bank stabilization techniques and storm water controls (wetland enhancement, green infrastructure, rain gardens, etc.) within the park boundary.

Appendix C: SHPO Consultation

NPS transmittal letter to SHPO (September 2, 2016)

SHPO request for additional information (September 30, 2016)

NPS response to request for additional information (November 28, 2016)

SHPO Concurrence (June 8, 2017)

Signed MOA (executed July 14, 2017)

Summary of Tribal Consultation

Miami Tribe of Oklahoma Consultation (September 14, 2016)



United States Department of the Interior

NATIONAL PARK SERVICE
Cuyahoga Valley National Park
15610 Vaughn Road
Brecksville, Ohio 44141-3097

IN REPLY REFER TO:
L1.1.B. (CUVA)

September 2, 2016

Amanda Terrell
Resource Protection and Review
Ohio Historic Preservation Office
800 East 17th Avenue
Columbus, Ohio 43211-2474

RE: Cuyahoga River Ecosystem Restoration
Canal Diversion Dam Project
Brecksville, Cuyahoga County and Sagamore Hills, Summit County, Ohio

Dear Ms. Terrell:

The National Park Service (NPS) and the Ohio Environmental Protection Agency (Ohio EPA), in partnership with the US Army Corps of Engineers (USACE) and the Ohio Department of Natural Resources (ODNR), have considered a range of alternatives for the removal or modification of the Canal Diversion Dam in the Cuyahoga River, resulting in the *Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project Environmental Assessment* (EA). The purpose of the EA is to identify an ecological restoration strategy that will improve water quality conditions impaired by the existing Canal Diversion Dam. The removal or modification of the existing dam will improve water quality and the health of aquatic communities, and therefore will allow the river to meet full attainment of the State of Ohio's Water Quality Standards.

Through interagency consultation and public involvement, the NPS and Ohio EPA have considered a wide range of alternatives to meet the project purpose and need, and have subject three alternatives (Alternative 1, No Action; Alternative 2, Dam Modification; Alternative 3, Dam Removal) to detailed analysis. Because the Canal Diversion Dam supplies water to the Ohio and Erie Canal, a National Historic Landmark (NHL), all action alternatives will maintain the canal in a watered condition. As documented in the attached EA, the NPS and Ohio EPA have concluded that Alternative 3, Dam Removal, is the alternative that best meets the project purpose and need.

The NPS and Ohio EPA have prepared this EA in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, the Advisory Council's procedures on historic preservation (36 CFR Part 800), and the 2008 Programmatic Agreement (PA) between our agency, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. The attached EA and findings below therefore serve as documentation for consultation in accordance with 36 CFR 800.8(c). Section 3.4 of the attached EA document describes the NPS efforts to identify historic properties, supplemented by tables and a map, and Section 4.5 offers the NPS assessment of effects on historic properties for each alternative.

In consultation with your office, NPS and the Ohio EPA have defined the Area of Potential Effects (APE) to account for all possible effects of the three alternatives on historic properties. To account for all possible direct and indirect project effects to historic properties, the NPS and Ohio EPA have developed an expansive APE that includes not only the immediate project area, but also areas both upstream and downstream of the existing diversion dam (Figure 1). The APE for direct effects (direct APE) includes all areas that may be subject to ground disturbance, use or construction-and operation-related visual, auditory or atmospheric effects. Because all action alternatives would involve the modification or removal of the existing Canal Diversion Dam, the APE for indirect effects (indirect APE) includes the river impoundment behind the dam extending for approximately two miles upstream, as well as the watered section of the Ohio & Erie Canal that extends to northern boundary of the Park. The direct and indirect APEs combine to form the project APE.

To consider the effects of its action on above ground historic properties, the NPS and Ohio EPA have completed a literature and field review to document and update the condition of the previously recorded cultural resources and identify any unrecorded properties 50 years old or older within the APE. The NPS and Ohio EPA identified 30 previously recorded aboveground cultural resources within the APE, most of which have been recorded in multiple inventories (Table 1). In spite of there being 30 cultural resources, there are only four NRHP historic properties within the APE: The Brecksville-Northfield High Level Bridge, the Station Road Bridge, the Valley Railway Historic District, and the Ohio & Erie Canal. There are no known archaeological sites located within the direct APE, which was repeatedly disturbed during the construction and maintenance of the Canal Diversion Dam.

To determine the number of effects and intensity of impacts to the historic properties, the NPS applied the Definition of Effect to each alternative. An effect is defined as the alteration to the characteristics of a historic property qualifying it for inclusion in, or eligibility for, the NRHP (36 CFR 800.16). Because of the character of the affected cultural resources and the scale and nature of the undertaking, the NPS and Ohio EPA found that the modification or removal of the Canal Diversion Dam, as well as the no-build option, would not affect the Brecksville-Northfield High Level Bridge, the Station Road Bridge, or the Valley Railway Historic District (Table 2). However, based on the nature of the alternatives and the reasonable and foreseeable secondary effects of the undertaking, any alternative that satisfies the project purpose and need would affect the Ohio & Erie Canal in some manner.

Therefore, the NPS and Ohio EPA assessed potential effects to each contributing element of the Ohio & Erie Canal, applied the Criteria of Adverse Effect (36 CFR 800.5) and made reasoned judgements regarding potential impacts. To gauge the extent and intensity of potential project effects, the NPS and Ohio EPA applied the criteria of adverse effects to each of the contributing elements to the Ohio & Erie Canal within the APE to determine whether the project would detract from the characteristics that convey the significance of the larger Ohio & Erie Canal landscape (Table 3).

Based in part on this analysis, the NPS and Ohio EPA have selected the removal of the Canal Diversion Dam (Alternative 3) as the alternative that best meets the project purpose and need while minimizing adverse effects to the Ohio & Erie Canal. The development of Alternative 3 would have no effect to 23 contributing elements to the Ohio & Erie Canal, no adverse effect to one resource, and will result in adverse effects to the Canal Diversion Dam and the remnant of the Pinery Dam. Therefore, Alternative 3 will have an adverse effect to contributing elements the Ohio & Erie Canal, but preserves the flow of water through the first designated historic portions of the canal and will have no adverse effect to the NHL.

Based on ongoing consultation with your office, including a September 17, 2015 field review, the NPS and Ohio EPA and your office agree that:

1. The APE as presented encompasses the sum of potential direct and indirect effects of all three alternatives, and;
2. Within the APE, the Ohio & Erie Canal is comprised of contributing elements and associated landscape features that include individual NRHP properties and the NHL, and is therefore eligible for the NRHP as a cultural landscape that includes entire spectrum of associated features (Table 1).

Now, based on the attached documentation and the findings of the Environmental Assessment, we ask your concurrence with the following:

1. The removal of the Canal Diversion Dam (Alternative 3) is the alternative that best meets the project purpose and need while maintaining the canal in a watered state;
2. The removal of the Canal Diversion Dam (Alternative 3) will result in an *adverse effect* to Ohio & Erie Canal through the removal of the Canal Diversion Dam and the remnant of the Pinery Feeder Dam, contributing elements to the canal landscape;
3. The direct APE for Alternative 3 will be subject to archaeological investigations and/or archaeological monitoring, the results of which will be used to support a finding of NRHP eligibility and effect that will be coordinated with your office prior to the construction of the project, and;
4. The NPS, Ohio EPA and your office will continue consultation to resolve the adverse effect to the Ohio & Erie Canal, and will record the agency commitment to avoid, minimize and mitigate the adverse effect in a memorandum of agreement (MOA) that must be executed prior to approval of the EA. A draft MOA is attached for your review.

We request your concurrence with this finding in keeping with Section IV of the 2008 Programmatic Agreement. If we receive no response in 30 days, in accordance with the Advisory Council on Historic Preservation's current regulations under 36 CFR 800.4(d)1, we will presume that the Ohio State Historic Preservation Officer agrees with the finding. If you have any questions or comments, please contact William M. Hunter, CVNP Section 106 coordinator at 1-330-342-0763 or via e-mail at william_hunter@nps.gov

Sincerely,



Craig Kenkel
Superintendent

Enclosures: Environmental Assessment
Figure 1. Area of Potential Effects
Table 1. Historic Properties
Table 2. Definition of Effect
Table 3. Criteria of Adverse Effect
Draft Memorandum of Agreement



In replies, please use
2005-CUY-206

September 30, 2016

Craig Kenkel
Superintendent
Cuyahoga Valley National Park
15610 Vaughn Road

Dear Mr. Kenkel:

Re: Brecksville Canal Diversion Dam Project (L1.1.B (CUVA)) Cuyahoga and Summit County, Brecksville and Sagamore Hills, Ohio

This letter is in response to your correspondence, received September 8, 2016 (sent September 2, 2016), regarding the Brecksville Canal Diversion Dam Project. My comments are in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

With this correspondence you enclosed the Environmental Assessment (EA) for the *Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project Environmental Assessment*, and a draft Memorandum of Agreement (MOA). Our office agrees that demolishing these structures and changing the flow of river will result in an adverse effect to the Ohio and Erie Canal (Reference # 66000607). However, before finalizing the MOA we request that you please provide our office with additional information.

First, please provide more details on how the Area for Potential Effect (APE) was delineated? While we agree that the direct APE should be subject to archaeological investigation, what will the scope of this investigation entail? Will our office have a chance to review the report and provide meaningful comments prior to construction activities?

Second, creating a free-flowing river is the adverse effect, as it will change the flow or dewater the extant canal system. The pump station is a way to reduce and mitigate the effect on historic properties. Therefore, the pump station should be treated as a deliverable through the stipulations in the MOA on which our office should be given an opportunity to comment. Furthermore regarding the pump, who will be the responsible entity for the maintenance of the pump? Who will be in charge of daily operations? If it fails to maintain a proper flow of water to the canal, who will be responsible for finding an alternative solution to keep water in the canal?

Lastly, we feel that documentation and demolition is not the ideal for mitigation. Are there any alternatives to the HAER documentation that your office has considered?

Page 2
Mr. Kenkel
September 30, 2016

We look forward to reviewing the plans and discussing with you the next steps in the review process.

If you have any questions, please contact Jenny Bellville-Marrion at (614) 298-2000, or via email at jbellellemarrion@ohiohistory.org

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Welling', with a stylized flourish at the end.

Diana Welling,
Department Head &
Deputy State Historic Preservation Officer
for Resource Protection and Review

Ser. 1065172

OHIO HISTORY CONNECTION

800 E. 17th Ave., Columbus, OH 43211-2474 • 614.297.2300 • ohiohistory.org



United States Department of the Interior

NATIONAL PARK SERVICE
Cuyahoga Valley National Park
15610 Vaughn Road
Brecksville, Ohio 44141-3097

IN REPLY REFER TO:

L1.1.B. (CUVA)

November 28, 2016

Amanda Terrell
Resource Protection and Review
Ohio Historic Preservation Office
800 East 17th Avenue
Columbus, Ohio 43211-2474

RE: Cuyahoga River Ecosystem Restoration
Canal Diversion Dam Project
Brecksville, Cuyahoga County and Sagamore Hills, Summit County, Ohio

Dear Ms. Terrell:

Thank you for the review of the *Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project Environmental Assessment* (EA). The National Park Service (NPS), Cuyahoga Valley National Park (CVNP, the park) submitted the EA to your office in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, the Advisory Council's procedures on historic preservation (36 CFR 800.8(c)), and our 2008 Programmatic Agreement (PA). Your office agreed with our finding that the alternative that best meets the project purpose and need, Alternative 3 (Dam Removal), would have an adverse effect to the Ohio and Erie Canal due to the removal of the Brecksville Dam and the in-channel remnant of the Pinery Feeder Dam.

To account for the adverse effect, the documentation also included a draft Memorandum of Agreement (MOA) that stipulated a series of commitments intended to mitigate the adverse effect and protect the downstream section of the Ohio and Erie Canal that is a National Historic Landmark (NHL). The draft MOA provided for detailed recordation of the adversely affected contributing elements, the completion of a historic resource survey that will guide future management decisions for the canal in the park, and provision for ongoing consultation with your office regarding the scope and scale of additional archaeological investigations. The MOA also stipulated ongoing consultation regarding the look and location of a system to maintain water in the canal. The watering system necessary to maintain a constant flow of water into Ohio and Erie Canal is integral to Alternative 3 and is not a mitigation measure; it was developed as part of the project in consultation with your office, consulting parties and the public as a provision to avoid down-channel impacts to the NHL.

In your correspondence dated September 30, 2016, your office requested additional information prior to our finalizing the terms of the MOA. In addition to the information provided above, in

keeping with NPS guidance and practices (2015 NEPA Handbook Section 4.6b), the project Cultural Resource Management (CRM) team has responded to the specific questions and comments *in errata* to the EA and the response document will be included as an appendix to the final environmental document. Please find this information enclosed.

The NPS hopes that this information, as well the conversations during our Biennial Review project field view and coordination meetings, held in the park on October 27-28, 2016, provide adequate information to finalize the MOA. If so, please sign and return the MOA, and we will circulate it for final signature and approval, and then return a signed copy to you. If there are additional questions or recommendations, we will continue consultation with your office to finalize the MOA; please contact William M. Hunter, CVNP Section 106 coordinator at 1-330-342-0763 or via e-mail at william_hunter@nps.gov

Thank you for the valuable consultation on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul J. Stoehr", with a stylized, flowing script.

Paul J. Stoehr
Acting Superintendent

enclosure: EA Response Errata Sheet

PEPC SHPO comments – Response to September 30, 2016 State Historic Preservation Office Review

SHPO Question 1: “First, please provide more details on how the Area for [sic] Potential Effect (APE) was delineated?”

The NPS developed the APE in consultation with the SHPO staff and the public, in meetings and in the field, including a field review with SJHPO staff on September 17, 2015) and it was designed to account for all manner of direct and indirect effects, including down channel effects to the portion of the canal that is a National Historic Landmark (NHL)

Section 3.4.2 of the EA details the logic behind its definition:

Federal regulations define an undertaking’s Area of Potential Effects (APE) as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (36 CFR 800.16). An APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. For example, the proposed undertaking might result in direct effects to resources, such as the actual removal of the Brecksville Canal Diversion Dam, or indirect effects, such as the changes to the water level of the upstream impoundment and watered downstream sections of the Ohio & Erie Canal. To account for all possible direct and indirect project effects, NPS has developed an expansive APE that includes not only the immediate project area, but also areas both up and downstream of the existing dam.

The APE for direct effects (direct APE) includes all areas that may be subject to ground disturbance, use or construction-and-operation-related visual, auditory or atmospheric effects. This Direct APE therefore includes the dam site, all possible work staging areas, areas through which construction equipment would access the site and all associated NPS designated tracts ... due to the elevated railroad grade, the western boundary of the direct APE is the western boundary of the Valley Railway (Tract 104-43). Because all action alternatives would involve the modification or removal of the existing Brecksville Canal Diversion Dam, the APE for indirect effects (indirect APE) includes the river impoundment behind the dam extending for two miles upstream, as well as the watered section of the Ohio & Erie Canal extending from the Brecksville (Pinery) Feeder Head Gate for 6.2 miles (5.4 linear miles) to northern boundary of CUVA at Rockside Road. The direct APE and the indirect APE together form the project APE.

SHPO Question 2: “While we agree that the direct APE should be subject to archaeological investigation, what will the scope of this entail?”

SHPO Question 3: “Will our office have a chance to review the report and provide meaningful comments prior to construction activities?”

Regarding the direct effects associated with the implementation of the preferred alternative, Section 1.4.2 of the EA notes:

There are no known archaeological sites located within the project area (or direct APE). The project area was repeatedly disturbed during the construction and maintenance of the Canal Diversion Dam. Based on the selected alternative, an archaeological survey of the directly affected area that will be completed

according to NPS standards and results will be coordinated with the Ohio State Preservation Officer. Should the survey identify intact and significant archaeological resources, NPS will continue consultation with the SHPO to avoid, minimize, or mitigate any adverse effects.

Section 3.4.1 of the EA notes:

In consultation with the SHPO, NPS and Ohio EPA agree to conduct archaeological investigations within the construction limits of any of the build alternatives, the results of which will be used to inform its final design and support a finding of NRHP eligibility and effect that be coordinated with the SHPO prior to the development of any build alternative. Should NPS find in consultation with the SHPO that the development of the selected alternative will have no adverse effect to significant archaeological resources, no further evaluation of historic properties would be necessary and Section 106 process would be complete. Should NPS find that the development of the selected alternative will have an adverse effect to significant archaeological resources, then the NPS will continue to consult with the SHPO to resolve adverse effects and conclude the Section 106 process through the execution of an agreement document.

The coordination letter notes:

The direct APE for Alternative 3 will be subject to archaeological investigations and/or archaeological monitoring, the results of which will be used to support a finding of NRHP eligibility and effect that will be coordinated with your office prior to the construction of the project, and;

The draft MOA stipulates ongoing consultation:

C. On-going Consultation

As the specific development of Alternative 3 is the result of a "design-build" process, NPS and Ohio EPA shall continue to consult with SHPO to avoid or minimize effects to significant cultural resources by:

1. NPS and Ohio EPA shall conduct archaeological investigations within the construction limits of Alternative 3, the results of which will be used to inform its final design, and support a finding of NRHP eligibility and effect that be coordinated with your office prior to the construction of the of the project; and

a. Should the NPS find that the project will have no adverse effect to significant archaeological resources in consultation with the SHPO, no further identification and evaluation of historic properties is necessary.

b. Should the NPS find that the project will have an adverse effect to significant archaeological resources; NPS will continue consult with the SHPO to resolve adverse effects and conclude the Section 106 process prior to the implementation of Alternative 3.

SHPO Question 4: "Second, creating a free flowing river is the adverse effect, as it will change the flow or dewater the extant canal system. The pump station is a way to reduce and mitigate the effect on

historic properties. Therefore, the pump station should be treated as a deliverable through stipulations in the MOA on which our office should be given an opportunity to comment.”

Alternative 3 was designed specially to maintain the water in the canal, and provision of a watering system is integral to the alternative. During scoping and in consultation with SHPO, the NPS and the Ohio EPA committed to maintain the watered section of the Ohio and Erie Canal to protect the historic property and especially the portion that is a National Historic Landmark (NHL). The EA and draft MOA are explicit that the final design of the watering system is to be developed in consultation with SHPO.

Section 2.2.3 of the EA notes:

The final design of the pump house and its exact location will be developed in consultation with the SHPO.

The draft MOA notes:

2. NPS will continue to consult with the SHPO regarding the location, form, materials and finish of the canal watering system during preliminary design of Alternative 3, and will consider the opinions of the SHPO during final design.

SHPO Question 5: “Furthermore, regarding the pump, who will be the responsible entity for maintenance of the pump? Who will be in charge of daily operations? If it fails to maintain a proper flow of water to the canal, who will be responsible for finding an alternative solution to keep water in the canal? ”

Funding for implementation of the project as well as the long-term (20 years) costs of the operation and maintenance of any structures for this particular project were identified as remedial actions from two separate legal Consent Decrees for the City of Akron and the Northeast Ohio Regional Sewer District (NEORSDD). The funds will be administered by the Friends of the Crooked River and are currently in escrow awaiting the conclusion of the environmental process. Ohio EPA is the agency responsible for the maintenance and operation of the pumping system for 20 years.

SHPO Question 6: “Lastly, we feel that documentation and demolition is not the ideal for mitigation. Are there any alternatives to HAER document that your office considered?”

Regarding mitigation, alternatives to HAER document are discussed in the Section 4.5.2.3 of the EA:

In consultation with NPS CRM Team, SHPO and other interested parties, adverse effects will be mitigated through wayside exhibits related to the modern use of the canal, documentation and detailed recordation of adversely affected elements including the two dams and completion of a NPS Historic Structure Report of the entire NRHP listed or eligible Ohio & Erie Canal landscape.

The draft MOA notes that, beyond Historic American Engineering Record (HAER) documentation, there is a commitment to update a Historic Structures Report (HSR) for the entire length of the canal within the Park to help inform canal management decisions.

3. NPS and Ohio EPA will update a draft Historic Structures Report (HSR) for the Ohio and Erie Canal within the Park to NPS standards, to mitigate the adverse effects to the larger canal landscape by guiding the long-term management of the resource.

The MOA also stipulates an interpretive component; a draft of an interpretive display developed by NPS Interpretation and Visitor Service professionals with input from SHPO and the public was included in the documentation for consultation.

B. Interpretive Sign

1. NPS and Ohio EPA will create one or more interpretive signs and install them on site to provide the public with information about the history and significance of the dams and the purpose of their removal.



June 8, 2017

In reply, please refer to:
2005-CUY-206

Craig Kenkel, Superintendent
Cuyahoga Valley National Park
15610 Vaughn Road
Brecksville, Ohio 44141-3097

RE: Signed Memorandum of Agreement
Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project
Summit and Cuyahoga Counties, Ohio

Dear Mr. Kenkel:

This letter is in response to correspondence received on November 28, 2016, as well as additional correspondence via email conveying the *Memorandum of Agreement Among the Ohio Environmental Protection Agency, the National Park Service, Cuyahoga Valley National Park and the Ohio State Historic Preservation Office regarding Cuyahoga River Ecosystem Restoration Brecksville Canal Diversion Dam Project in Summit and Cuyahoga Counties, Ohio* (Agreement).

I have signed the agreement on behalf of the Ohio State Historic Preservation Office and we have retained a copy of the document for our files. Once NPS and OEPA have signed the agreement, please provide our office with a copy.

We look forward to the on-going consultation regarding the design of the project and interpretive signage and the documentation package required in the Stipulations of the Agreement. If you have any questions, please contact me at dwelling@ohiohistory.org or (614) 298-2015. Thank you for your cooperation.

Sincerely,

Diana Welling
Department Head & Deputy State Historic Preservation Officer
For Resource Protection & Review

Enclosure

Memorandum of Agreement Signed by SHPO June 7, 2017

**MEMORANDUM OF AGREEMENT
AMONG THE
THE OHIO ENVIRONMENTAL PROTECTION AGENCY,
THE NATIONAL PARK SERVICE, CUYAHOGA VALLEY NATIONAL PARK,
AND THE
OHIO STATE HISTORIC PRESERVATION OFFICE
REGARDING
CUYAHOGA RIVER ECOSYSTEM RESTORATION
BRECKSVILLE CANAL DIVERSION DAM PROJECT
SUMMIT AND CUYAHOGA COUNTIES, OHIO**

WHEREAS, the National Park Service, Cuyahoga Valley National Park (NPS, CVNP) and the Ohio Environmental Protection Agency (Ohio EPA), in partnership with the US Army Corps of Engineers (USACE) and the Ohio Department of Natural Resources (ODNR), have considered a range of alternatives for the modification and/or removal of the Brecksville Canal Diversion Dam in the Cuyahoga River;

WHEREAS, in a 2009 Memorandum of Understanding (MOU), the agencies determined that the NPS is the lead federal agency with the Ohio EPA, USACE and ODNR as cooperating agencies with the responsibility to comply with National Environmental Policy Act (NEPA) and other legal requirements for the proposed removal of the Canal Diversion Dam; and

WHEREAS, the agencies determined that the Ohio EPA is responsible for the preparation of the environmental document with the technical support of the NPS; and

WHEREAS, the NPS and Ohio EPA have chronicled the results of its analysis in the *Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project Environmental Assessment* (Environmental Assessment); and

WHEREAS, the full removal of the existing dam is needed to improve water quality and aquatic communities, and therefore allow the river to meet full attainment of the State of Ohio's Water Quality Standards; and

WHEREAS, through interagency consultation and public involvement, the NPS and Ohio EPA considered three alternatives in the Environmental Assessment (Alternative 1, No Action; Alternative 2, Modification of Canal Diversion Dam with Canal Dredge; Alternative 3, Full Removal of Canal Diversion Dam with Pump Installation); and

WHEREAS, the NPS and Ohio EPA have concluded that Alternative 3 is the preferred alternative that best meets the purpose and need of the project; and

WHEREAS, Alternative 3 includes the full removal of the Canal Diversion Dam, the wing walls and the remnants of the Pinery Dam, leaving the feeder gates in place, and installing an active watering pump system to divert water to the Ohio and Erie Canal;

WHEREAS, the NPS and Ohio EPA have consulted with the Ohio State Historic Preservation Officer (SHPO) pursuant to 36 CFR 800, the regulations implementing Sections 106 and 110 of the National Historic Preservation Act (NHPA); and

WHEREAS, the NPS, SHPO (through the National Council of SHPOs) and the Advisory Council on Historic Preservation (ACHP) are party to a *Programmatic Agreement Regarding Compliance With Section 106 of the National Historic Preservation Act* (PA); and

WHEREAS, the Canal Diversion Dam (SUM-3253-01, Brecksville Dam) and the remnant Pinery Dam are contributing elements to the Ohio and Erie Canal cultural landscape, and their removal and the addition of the pump system is an alteration to the setting and will result in an adverse effect to Ohio and Erie Canal (NRHP #66000607); and

WHEREAS, in accordance with 36 CFR 800.6(a)(1), NPS and Ohio EPA have notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination and supplied requisite documentation, and the ACHP had chosen not to participate in consultation, pursuant to 36 CFR 800.6(a)(1)(iv);

NOW, THEREFORE, the NPS and Ohio EPA and the SHPO agree that NPS and Ohio EPA shall ensure that the following stipulations are implemented in order to mitigate the adverse effect to the Ohio and Erie Canal landscape, its setting, and its two contributing elements, the Canal Diversion Dam and the remnant Pinery Dam.

I. STIPULATIONS

To account for the adverse effects to the Ohio and Erie Canal and its setting, the NPS and Ohio EPA will ensure that the following measures are carried out prior to demolition of the dam:

A. Documentation

1. NPS and Ohio EPA will document the Canal Diversion Dam to Historic American Engineering Record (HAER) Level II standards to mitigate the direct adverse effects to the resource.
2. NPS and Ohio EPA will document the remnants of the Pinery Dam, in a submerged condition if possible, to Historic American Engineering Record (HAER) Level II standards to mitigate the direct adverse effects to the resource.
3. NPS and Ohio EPA will update a draft Historic Structures Report (HSR) for the Ohio and Erie Canal within the Park to NPS standards as a precursor to a full Cultural Landscape Report (CLR); to mitigate the adverse effects to the larger canal landscape by guiding the long-term management of the resource.
4. The NPS will make the above mitigation products available to the public through posting on the NPS Planning, Environment and Public Comment (PEPC) system and website.

B. Interpretive Sign

1. NPS and Ohio EPA, in consultation with SHPO, will create one or more interpretive signs and install them on site to provide the public with information about the history and significance of the dams and the purpose of their removal.

C. On-going Consultation

As the specific development of Alternative 3 is the result of a "design-build" process, NPS and Ohio EPA shall continue to consult with SHPO to avoid or minimize effects to significant cultural resources:

1. NPS and Ohio EPA shall conduct archaeological investigations within the Area of Potential Effect for the construction of the pump house. NPS and Ohio EPA will submit the report to SHPO for review and comments. The results of the investigations and SHPO comments will be used to inform its final design, and support a finding of NRHP eligibility and effect.
 - a. Should the NPS find that the project will have no adverse effect to significant archaeological resources in consultation with the SHPO, no

further identification and evaluation of historic properties will be necessary.

b. Should the NPS find that the project will have an adverse effect to significant archaeological resources then the NPS will continue consult with the SHPO to resolve adverse effects prior to the implementation of Alternative 3.

2. NPS will continue to consult with the SHPO regarding the location, form, materials and finish of the canal watering system during preliminary design of the pump, and will consider the opinions of the SHPO during final design.

3. NPS will notify the tribes with an interest in CVNP to identify any sites of religious or cultural significance that may be affected by the development of the watering system, and consult to avoid any effects to such sites, if present.

D. Schedule

Immediately upon full execution of this Memorandum of Agreement, NPS shall begin completion of the mitigation actions required:

1. NPS will submit the draft HAER and HSR documents to the NPS Midwest Regional Office Chief of Cultural Resources within two years of notification of the execution of this document for review and approval.

2. NPS will submit a draft version of the HAER and HSR documentation to SHPO for review and comment within one month (30 days) of the completion of the NPS Midwest Regional Office review and will address any comments received within sixty (60) days in revisions to the draft document and in production of the final submission.

3. NPS will provide the SHPO with two copies of the completed draft HAER and HSR documentation for review and acceptance within two years of the execution of this document.

4. NPS will submit the content and design of the interpretive sign(s) to SHPO for design and content approval within six months (180 days) of the execution of this document and prior to manufacture of the sign. NPS will provide SHPO the opportunity to review and approve the final placement of the interpretive sign(s) prior to installation.

II. DURATION

This MOA will be invalid if its terms are not carried out within three (3) years from the date of its execution. Prior to such time, NPS may consult with SHPO to reconsider the terms of the MOA and amend it in accordance with Stipulation IV below.

III. DISPUTE RESOLUTION

Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, NPS and Ohio EPA and SHPO shall consult to resolve the objection. If NPS and Ohio EPA determine that such objection cannot be resolved, NPS will:

- A. Notify the ACHP and invite their participation, and forward all documentation relevant to the dispute, including a NPS and Ohio EPA proposed resolution, to the ACHP. NPS and Ohio EPA will actively solicit ACHP advice on the resolution of the objection and prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and SHPO, and provide them with a copy of this written response.

- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) calendar-day period, NPS and Ohio EPA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, NPS and Ohio EPA shall prepare a written response that takes into account any comments from the SHPO and any other interested party regarding the dispute, and provide them and the ACHP with a copy of such written response.
- C. NPS and Ohio EPA responsibility to carry out all other actions that are subject to the terms of this MOA, but not the subject of the dispute, would remain unchanged.

IV. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

V. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation IV, above. If within thirty (30) days (or another period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on any Undertaking, NPS and Ohio EPA must either a) execute an MOA pursuant to 36 CFR. Section 800.6 or b) request, take into account, and respond to the comments of the ACHP under 36 CFR. Section 800.7. NPS shall notify the SHPO and ACHP as to the course of action it will pursue.

In accordance with Ohio Revised Code 126.07, Ohio EPA will ensure that the director of budget and management first certifies that there is a balance in the appropriation not already obligated to pay existing obligations, in an amount at least equal to the portion of the contract, agreement, obligation, resolution, or order prior to their acceptance of this agreement.

OHIO ENVIRONMENTAL PROTECTION AGENCY

By:  Date: 6/30/17

NATIONAL PARK SERVICE, CUYAHOGA VALLEY NATIONAL PARK

By:  Date: 7.14.17

OHIO STATE HISTORIC PRESERVATION OFFICE

By:  Date: 6/7/17

Summary of Tribal Consultation

NPS consulted with the tribes at several points during the development of this project. On August 19, 2016, the NPS and OEPA invited the ten tribes with an interest in the CVNP to review and comment on the draft EA and presented them with our recommended finding. The tribes were also formally invited to a public meeting held on September 7, 2016. The ten tribes are the Absentee-Shawnee Tribe of Indians of Oklahoma; Delaware Tribe of Indians; Delaware Tribe of Western Oklahoma; Eastern Shawnee Tribe of Oklahoma; Miami Tribe of Oklahoma ; Ottawa Tribe of Oklahoma; Seneca Nation of Indians; Seneca-Cayuga Tribe of Western Oklahoma; Shawnee Tribe; Wyandotte Nation. Only the Miami Tribe of Oklahoma responded, stating that there was no objection to the project and no documented link to a Miami historical or cultural site.



Miami Tribe of Oklahoma

3410 P St. NW, Miami, OK 74354 • P.O. Box 1326, Miami, OK 74355
Ph: (918) 541-1300 • Fax: (918) 542-7260
www.miamination.com



September 14, 2016

Craig Kenkel, Superintendent
Cuyahoga Valley National Park
15610 Vaughn Road
Brecksville, OH 44141

Re: Canal Diversion Dam Project in Cuyahoga Valley National Park

Dear Mr. Kenkel:

Aya, kikwehsitoole. My name is Diane Hunter, and I am the Tribal Historic Preservation Officer for the Federally Recognized Miami Tribe of Oklahoma. In this capacity, I am the Miami Tribe's point of contact for all Section 106 issues.

The Miami Tribe offers no objection to the above-mentioned projects at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project sites. However, as these sites are within the aboriginal homelands of the Miami Tribe, if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at 918-541-8966, or by email at dhunter@miamination.com to initiate consultation.

The Miami Tribe requests to serve as a consulting party to the proposed projects. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

Respectfully,

Diane Hunter
Tribal Historic Preservation Officer
Miami Tribe of Oklahoma
P.O. Box 1326
Miami, OK 74355

Appendix D: Public Comment

Non-Substantive Public Comments

Substantive Public Comments

Response

Non-Substantive Public Comments

PEPC Project ID: 18943, DocumentID: 74777

Correspondence: 1

Author Information

Keep Private: No
Name: Michael J. Kole
Organization:
Organization Type: I - Unaffiliated Individual
Address: 1416 Honeygold Lane
Broadview Hts, OH 44147
USA
E-mail: thepilot@amcritech.net

Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 08/24/2016 Date Received: 08/24/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

Alternative 2 (two) is the best solution as it totally relies on gravity (no pumps required as in alternative 3) and still removes the dams which thus attains Ohio's Water Quality Standards goal to provide a natural free flowing regime. The result is improved water quality for fish and other aquatic wildlife. Additionally, without the dams, canoeists and kayakers will not have to face a dangerous impediment and will enjoy a greater quality experience.

Correspondence: 2

Author Information

Keep Private: No
Name: ALAN F. LAKIS
Organization:
Organization Type: I - Unaffiliated Individual
Address: 7290 DEER RUN
SEVEN HILLS, OH 44131
USA
E-mail: alanlakis@yahoo.com

Correspondence Information

Status: New	Park Correspondence Log:
Date Sent: 08/29/2016	Date Received: 08/29/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

I fully support Alternative 2. Removal of the dam, no pumps, and a gravity based free flowing stream. This alternative will support a natural environment for the river's aquatic life, will provide required water for the canal, and encourage river recreational activities...

Correspondence: 3

Author Information

Keep Private: No
Name: Marty Cader
Organization:
Organization Type: I - Unaffiliated Individual
Address:
Cleveland, OH 44135
USA
E-mail: mcader@city.cleveland.oh.us

Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 09/06/2016 Date Received: 09/06/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

The Cuyahoga River should run free and be open to canoes and kayaks from the Cuyahoga Valley National Park to the mouth of the Cuyahoga in Cleveland.
Please remove this dam as quickly as possible.

PEPC Project ID: 18943, DocumentID: 74777

Correspondence: 4

Author Information

Keep Private: No
Name: N/A N/A
Organization:
Organization Type: I - Unaffiliated Individual
Address:
Tallmadge, OH 44278
USA
E-mail:

Correspondence Information

Status: New	Park Correspondence Log:
Date Sent: 09/06/2016	Date Received: 09/06/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

We need some snot otters.

Correspondence: 5

Author Information

Keep Private: No
Name: Thomas D. N/A
Organization:
Organization Type: I - Unaffiliated Individual
Address: 2116 McKinley Ave
Lakewood, Ohio 44107
Lakewood, OH 44107
USA
E-mail: thomas.hampton@att.net

Correspondence Information

Status: New	Park Correspondence Log:
Date Sent: 09/07/2016	Date Received: 09/07/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

Remove the dam, restore the river.

PEPC Project ID: 18943, DocumentID: 74777
Correspondence: 9

Author Information

Keep Private: No
Name: David Stroud
Organization:
Organization Type: I - Unaffiliated Individual
Address:
Cuyahoga Falls, OH 44223
USA
E-mail:

Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 09/12/2016 Date Received: 09/12/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

I support the plan to remove the Brecksville dam. It is time to return that section of the Cuyahoga River to a natural, free-flowing river again. It is time to restore the biological health of that section of the river. It is time to remove that low-head dam which has claimed so many lives. It is time to make the river safer for recreational uses.

PEPC Project ID: 18943, DocumentID: 74777
Correspondence: 13

Author Information

Keep Private: No
Name: John Kobak
Organization:
Organization Type: I - Unaffiliated Individual
Address: 1649 Allen Dr
Westlake, OH 44145
USA
E-mail: john@bcpoa.org

Correspondence Information

Status: New	Park Correspondence Log:
Date Sent: 09/18/2016	Date Received: 09/18/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

I have been kayaking in the Cleveland area for over 50 years. My hope has been the total removal of all dams on the Cuyahoga River since they impede fish movement, increase pollution and are a safety hazard on the river. The only option that makes any sense is Option 3, removal of the dam.

Correspondence: 14

Author Information

Keep Private: No
Name: N/A N/A
Organization:
Organization Type: I - Unaffiliated Individual
Address:
Wadsworth, OH 44281
USA
E-mail:

Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 09/19/2016 Date Received: 09/19/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

I support the decision to use Alternative 3, Dam Removal.

PEPC Project ID: 18943, DocumentID: 74777
Correspondence: 15

Author Information

Keep Private: No
Name: N/A N/A
Organization:
Organization Type: I - Unaffiliated Individual
Address:
Fairlawn, OH 44333
USA
E-mail: Ebgohome-kayak@yahoo.com

Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 09/19/2016 Date Received: 09/19/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

As a frequent hiker in the national park and Brecksville reservation, a white water kayaker and a flat water river kayaker I believe that the third option (dam removal) will best meet the stated goals as well as provide the best opportunities for recreation along the river.

Correspondence: 16

Author Information

Keep Private: No
Name: dave roush
Organization: Keel Hauler canoe club
Organization Type: I - Unaffiliated Individual
Address: 409 lassiter drive
highland heights, OH 44143
USA
E-mail: rockyroush@gmail.com

Correspondence Information

Status: New	Park Correspondence Log:
Date Sent: 09/20/2016	Date Received: 09/20/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

Dam removal is the best choice. We have an opportunity to make Cuyahoga Falls a destination for kayaking in Ohio. This has benefited a number of communities in PA, WV, NC TN and elsewhere from economic and public health presepectives . It would be wonderful to have some things local!

Correspondence: 17

Author Information

Keep Private: No
Name: Joan N/A
Organization:
Organization Type: I - Unaffiliated Individual
Address:
Avon, OH 44011
USA
E-mail: Joan.Bruscino@keelhauler.org

Correspondence Information

Status: New	Park Correspondence Log:
Date Sent: 09/21/2016	Date Received: 09/21/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

All dams should be removed from the Cuyahoga river to make it a free flowing river again. Maybe someday I'll be able to canoe through the National Park without the pollution or fear of dams.
I favor option 3, removal of the dam.

Correspondence: 18

Author Information

Keep Private: No
Name: Terry Markoff
Organization:
Organization Type: I - Unaffiliated Individual
Address: 9514 Taylor May
Bainbridge Township, OH 44023
USA
E-mail: ke_markoff@adelphia.net

Correspondence Information

Status: New	Park Correspondence Log:
Date Sent: 09/23/2016	Date Received: 09/23/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project Environmental Assessment- I support alternative 3 , removal of a structure that has inherent dangers in it's design, no longer has economic value, impedes the flow of water interfering with the the ecological soundness off the environment, seems to be a reasonable and and long term cost efficient choice. This choice eliminates the ongoing maintenance and monitoring while maintaining water flow in the river and it seems maintaining the historically significant canal.

Correspondence: 20

Author Information

Keep Private: No
Name: John C. Banach
Organization:
Organization Type: I - Unaffiliated Individual
Address: 923 Barnes Ave
Cuyahoga Falls, OH 44221
USA
E-mail: j_banacka@hotmail.com

Correspondence Information

Status: New	Park Correspondence Log:
Date Sent: 09/26/2016	Date Received: 09/26/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

I would like to see alternative 3. Both dams should go completely. They are not necessary and their removal would have lasting benefits to the river, surrounding land, wildlife, and for future recreational use of the area.

Correspondence: 21

Author Information

Keep Private: No
Name: Dr. Mimi L. Becker
Organization: League of Women Voters of Hudson, Ohio
Organization Type: I - Unaffiliated Individual
Address: 47 Laurel Lake Drive, Hudson, OH 44236
Hudson, OH 44236
USA
E-mail: mimi.becker@unh.edu

Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 09/28/2016 Date Received: 09/28/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

These comments are submitted on behalf of the LWV of Hudson by Dr. Mimi Larsen Becker, subsequent to review and approval of the Board of Directors.

Comments in support of Option 3: Full Removal of Canal Diversion Dam with Pump Installation to maintain water in the Ohio and Erie Canal is supported by the League of Women Voters of Hudson, Ohio. Under its National, State, Regional (Lake Erie Basin Committee) and Local studies, the League holds strong positions on water quality protection and ecosystem integrity, as well as supporting Great Lakes ecosystem restoration to achieve ". . . maximum protection of human health and the environment" [LWV of the United States]. Based upon local studies, the Hudson league supports maintaining segments of the Ohio and Erie Canal within the park. These positions provided the context for the Hudson League's review of the Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project Environmental Assessment which is the subject of our comments.

Environmental Assessment and supporting studies: We recognize that this proposed action must address more than local concerns because we are not only addressing a proposed action in a river that flows through our National Park, but we are also dealing with decisions related to the restoration of a designated Area of Concern under the Great Lakes Water Quality Agreement. Thus we must consider how the preferred options will affect Lake Erie's health. The Project objectives are clearly consistent with the intent of the GLWQA of 2012, including the specified criteria for ecosystem protection and/or restoration, the International Joint Commission criteria for the delisting of ecosystem impairments for designated Areas of Concern, and the goal of achieving Ohio Water Quality Standards. The Project Objectives specified in the EA [page 2 of Chapter 1] are clearly designed to assess project alternatives in this context by improving water quality in the Cuyahoga, including its habitat values while ". . . contributing to the ecological restoration" of the Great Lakes Ecosystem. Our review of the EA suggests that the results of dam removal will be significantly beneficial to both the river and its users. We agree with the study's conclusion that removal of the dam will remove the source of a long time water pollution problem caused mainly by the impoundment behind the dam in that reach of the river. This act should contribute to the restoration of the Cuyahoga

Correspondences - Cuyahoga River Ecosystem Restoration Canal Diversion Dam Project - PEPC ID: 18943

River's ecosystem integrity and make progress toward delisting the specified impaired uses in this Area of Concern through improvements in water quality, biological diversity and the improved of conditions that allow recreational use by humans. At the same time installation of the pump system will assist in preserving the cultural values associated with keeping that particular reach of the Ohio and Eire Canal watershed.

Study & Decision Process: The League of Women Voters believes that all levels of governance are responsible for environmental protection and pollution control. In this case the LWV of Hudson not only supports the preferred alternative of Dam removal, but we note that the process by which this study was conducted is consistent with one needed as we try to solve complex problems associated with the protection and restoration of this important resource. We commend the leadership provided by the interdisciplinary and multi-jurisdictional team that oversaw and contributed to the study's technical documents and public engagement process throughout its duration. It is clear that the diversity of expertise and the perspective that resulted are keys to the strength of study results: the options recommended are feasible and recognize the challenges of addressing both the socio-cultural and ecological integrity of that important area of our National Park.

We submit this with our thanks for a comprehensive, clearly written EA document and supporting studies.

Correspondence: 22

Author Information

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Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 09/29/2016 Date Received: 09/29/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

As a previous resident of Cleveland and a visitor of Cuyahoga Valley National Park, it's great to see that the water quality is being considered and that this project is in motion. I know that water quality has been a perennial issue in this area and I love to see that it's not a forgotten issue.

Correspondence: 23

Author Information

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Status: New Park Correspondence Log:
Date Sent: 09/29/2016 Date Received: 09/29/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

The League of Women Voters of the Akron Area (LWVAA) fully supports removal of the Canal Diversion Dam in Brecksville, Ohio. This is consistent with the League's policy positions regarding environmental protection. At the national level, we seek to: "Preserve the physical, chemical and biological integrity of the ecosystem, with maximum protection of public health and the environment." Regionally, we work "to preserve and restore Lake Erie and its tributaries."

Removal of this dam would be a significant step toward achieving the delisting of the Cuyahoga River as a Great Lakes Area of Concern. In addition to the water and habitat quality improvements, we value the new recreational opportunities for paddlers.

In our view, the restoration of the Cuyahoga River is vital to the revitalization of Northeast Ohio.

Sincerely,
Arrye R. Rosser
LWVAA Natural Resources Chair

Substantive Public Comments

PEPC Project ID: 18943, DocumentID: 74777
Correspondence: 11

Author Information

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Status: New Park Correspondence Log:
Date Sent: 09/16/2016 Date Received: 09/16/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

The U.S. Fish and Wildlife Service provided comments on the proposed action on November 24, 2009 and July 29, 2015. These comments are still applicable to the proposed project. We have no additional comments at this time.

Correspondence: 6

Author Information

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Status: New	Park Correspondence Log:
Date Sent: 09/07/2016	Date Received: 09/07/2016
Number of Signatures: 1	Form Letter: No
Contains Request(s): No	Type: Web Form
Notes:	

Correspondence Text

Why is the EPA trying to bankrupt Akron residents? First a monumental sewer project and now nearly \$1 million to remove the Brecksville dam! It's no wonder people are moving out. Keep this up and there'll be no one left to enjoy all that clean water! The dam belongs to the state. The U.S. Government wants it out. Let them pay more of the costs.

PEPC Project ID: 18943, DocumentID: 74777

Correspondence: 7

Author Information

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Status: New Park Correspondence Log:
Date Sent: 09/09/2016 Date Received: 09/09/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

Visitor comment on how this will affect the Bald eagles at Station Road. Will the noise from the removal and or the pumps bother the eagles enough that they may move?

PEPC Project ID: 18943, DocumentID: 74777
Correspondence: 8

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Status: New Park Correspondence Log:
Date Sent: 09/09/2016 Date Received: 09/09/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

I wish we could combine options 2 & 3. Take down the Brecksvill dam and pinery dam. Do not use a pump to raise water to the old canal route. Install a diversion dike that goes upriver, and collects some of the Cuyahoga River waters so a gravity feed exists for the old canal.

PEPC Project ID: 18943, DocumentID: 74777

Correspondence: 10

Author Information

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Status: New Park Correspondence Log:
Date Sent: 09/13/2016 Date Received: 09/13/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

I believe that alternative three provides a return to a more natural state than the other two alternatives and should be chosen. I believe that another alternative that was never considered would be even more natural. The dam could be removed with no plan to refill the canal. Your evaluation states, " Although not explicitly named as a contributing element, the water in the watered sections helps to convey the canal's significance." Based on this and nothing more you eliminated not filling the canal as an option. I am not sure that,even if this statement is true, it warrants the expense of building and maintaining a pump that will detract from the natural beauty of the area and will require ongoing energy utilization.

PEPC Project ID: 18943, DocumentID: 74777
Correspondence: 12

Author Information

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Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 09/18/2016 Date Received: 09/18/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

I agree with the EA that was completed and that the Brecksville Dam should be removed. The health of the stream along with the economic benefits of having people on the river is extremely important. I find it embarrassing that the national park that I frequent so very much doesn't recommend being on the river or eating so much fish from the river because of the water quality. I am smart enough to understand there are other factors that contribute to this problem of water quality but removing the dam would be a big step in correcting this problem.

Personally I would like to see all the water continue down the river and the canal go dry. I grasp the cultural significance of the canal and I can accept that the NPS is also an agency that protects cultural landmarks. That being said I do worry about the pump and problems that can arise from it. Ranging from long term costs, ability to function correctly and the added delays the pump may cause in the completion of this project.

This has been a long and difficult road to reach this point. It seems like the dam is the closest it has ever been to being removed. I just don't want to see there be more delays because of pump.

I am excited and hopefully that the dam will finally be removed and I am encouraged that the Gorge Metro Park dam may be the next to be removed!

PEPC Project ID: 18943, DocumentID: 74777
Correspondence: 19

Author Information

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Status: New Park Correspondence Log:
Date Sent: 09/26/2016 Date Received: 09/26/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

I support the removal of the Canal Diversion Dam in the Cuyahoga River. Removal is needed to restore natural water flow in the river for improved water quality and to restore fish passage.

The method used to maintain water in the canal must be studied and carefully planned. Dams I am personally familiar with, the Baldwin Lake dam on the Rocky River in Berea, Ohio, and the lower lake dam at the Richfield Heritage Preserve (former Crowell Hilaka Girl Scout Camp) in Richfield, Ohio, have had their valves jam in one way or another in high flow conditions. I would imagine a pump would also be vulnerable. Whatever device or pump approved needs to be able to withstand flash floods and sediment, particularly while the Cuyahoga River continues to recover and this area becomes stable.

Correspondence: 24

Author Information

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Correspondence Information

Status: New Park Correspondence Log:
Date Sent: 09/29/2016 Date Received: 09/29/2016
Number of Signatures: 1 Form Letter: No
Contains Request(s): No Type: Web Form
Notes:

Correspondence Text

There is presumption from OEPA that river quality will be improved by removal. Universally accepted (actually prohibited) is not to take river quality data at a confluence. Two unrelated evaluations by the City of Akron document the synergy of dam with the confluence and remnants of Akron effluent. This may be the only dam that breaks OEPA's assumption. This is similar to Portage Lakes septic pollution aiding breakdown of petrol products from recreation use. The basic premise for removal is contradicted by actual data.

Therefore all three options are inferior by originating premise.

Suggestion is 6-meter wide channel on west side about 35 meters long dropping 2 meter in height for both recreational use and fish connection. This maintains canal infrastructure and if this region industrial need renews our abundance of water resources would require minimal change to prioritize industrial need over recreational at little sacrifice only during low flow. Couple this with base drain on East side will mitigate need for dredging at gate and O2 depletion in pond area.

Option three ignores that thousands of stockholders thought maintenance of dam was to their future benefit. While the canals present preservation is historically based, it allows for future utilization in our changing climate conditions.

Option to allow silt to wash down appears to be more costly than to dredge locally v. in the flats, in that more recyclable v. highly contaminated.

Although a commitment of Akron Council to contribute in lieu of fines, Akron contribution requires a vote of people for project outside city. There has been no vote.

Money would be environmentally wisely spent to clean up Chippewa v. dam removal.

I find this puzzling that Chippewa review has been lacking in all analyst.

">

PEPC website (substantive) comments

Comment #6, 12, 19 - concerns raised about the expenses for dam removal; long term cost and O&M of the pump; pump withstanding flash floods and sediment;

Funding for implementation of the project as well as the long term (20 years) costs of the operation and maintenance of any structures for this particular project were identified as remedial actions from two separate legal Consent Decrees for the City of Akron and the Northeast Ohio Regional Sewer District (NEORS). Ownership of the dam and surrounding land involves multiple agencies. In addition to the Consent Decree findings mentioned above, the National Park Service (NPS), Cleveland Metroparks and Ohio Department of Natural Resources (ODNR) will continue to work cooperatively to form an agreement for the ownership, operation and maintenance of any structures to maintain a watered condition in the Ohio & Erie Canal.

A study of alternative flow options by the University of Akron's Department of Engineering prepared for this project assessed centrifugal and screw pump alternatives based on their ability to meet the required flow in a cost effective manner. The study recommended that screw pumps have a higher efficiency and lower energy cost than centrifugal pumps. Screw pumps by design are better equipped to handle the sediment and solids that may be present in the Cuyahoga River. The pump will be designed and built specifically for this site and conditions to aid in the lifting and diversion of water from the river into the canal. The appearance and location of final design of the pump house will be developed in consultation with the State Historic Preservation Office to preserve cultural values of the area. The NPS would continue a minimal level of maintenance to dredge areas near the feeder gates.

Comment #7 concerns about construction noise or pump noise disturb eagle nesting

Informal consultation with the USFWS throughout the scoping of this project concluded that no adverse impacts to threatened or endangered status species would result from the implementation of the proposed alternatives. A bald eagle nest occurs within ½ mile of the project area. The bald eagle has been removed from the Federal list of endangered and threatened species due to recovery, however; this species continues to be afforded protection by the Bald and Golden Eagle Protection Act and Migratory Bird Protection Act. The USFWS has recommended that the NPS document the precise location of the eagle nest and quantify and describe any project impacts that will occur within ¼ mile of the eagle's nest. If impacts will be occurring within the ¼ mile of the nest we will consult further with the USFWS office to identify appropriate avoidance and mitigation measures. Work may also be restricted from mid-January to through July to prevent disturbance to eagles during egg-laying period until the young fledge.

Comments #8, 10, 12, 24 suggest other alternatives: install a diversion dike upriver and collect some of the water so a gravity feed exists for the canal; fill in the canal and not install/maintain a pump; allow the canal to go dry and not divert water to it. Install 6 meter wide channel on west side to allow for canoe and fish passage

Alternatives considered but dismissed included an upstream structure with gravity feed to divert water into the canal. This alternative would not be feasible since there is not enough of a drop in elevation to move the water into the canal. Similarly, any structure upstream, such as a diversion dike would still not have enough of a change in elevation to utilized sufficient gravity feed of water into the canal.

Filling in the canal or allowing it to go dry were not alternatives considered because the National Park Service is charged with the mandate to preserve and protect its cultural resources and the historic values of the Cuyahoga Valley. The Ohio & Erie Canal is one of the most important and widely recognized collection of resources bisecting Cuyahoga Valley National Park along its north-south axis and is recognized as a foundational cultural resource of the national park. The northern six miles of the canal within Cuyahoga Valley National Park, from Route 82 to Rockside Road remains in a watered condition and is designated as a National Historic Landmark (NHL). NHLs are those districts, sites, buildings, structures, or objects of exceptional national, historical significance. Filling in the Canal, or letting it go dry would contribute to the cumulative effects of deterioration in canal structures over time and inhibit the ability to demonstrate historic function and use of the canal. Maintaining a watered condition that retains the cultural value of the canal and its NHL designation was identified as an action common to any proposed alternative.

Utilization of a fish ladder for fish passage was considered, but dismissed since the Ohio EPA determined that the native species of fish in the Cuyahoga River are not capable of using the ladder. Removal of the dam barrier would create a free-flowing river with fish passage.

While canoe passage may be a benefit to park visitors, it is not the purpose of the project and was therefore not assessed. The purpose and need of the Canal Diversion Dam project is to improve the water quality conditions of the Cuyahoga River while upholding the mission of protecting and preserving the resource values of the park.

Comment # 24 – raised a question about the lack of analyses of Chippewa Creek

Chippewa Creek is within the project area and was included in the 2007 study by Arcadis, Inc, entitled *Cuyahoga River HEC-RAS Study*. According to hydraulic modelling, very little additional bank width will be exposed by the anticipated drop in water surface elevation for Chippewa Creek. Potential indirect impact to the east bank of the river upstream of the Chippewa confluence was identified.

Appendix E: Agencies and Groups Contacted During Public Scoping Activities

Boston Township
Cleveland Metropolitan Park District
Cleveland Museum of Natural History
Conservancy for Cuyahoga Valley National Park
Crown Point Ecology Center
Cuyahoga County Board of Commissioners
Cuyahoga County Planning Commission
Cuyahoga County Soil and Water Conservation District
Cuyahoga RAP - Cuyahoga River Community Planning Organization
Cuyahoga Valley Countryside Conservancy
Cuyahoga Valley Scenic Railroad

City of Akron
City of Brecksville
City of Cuyahoga Falls
City of Hudson
City of Independence

EcoCity Cleveland
Friends of Crooked River
Greater Akron Audubon Society
Keelhaulers Canoe Club
Northeast Ohio Four County Planning
Northfield Center Township
Northfield Center Fire Department
Ohio Canal Corridor

Ohio Department of Agriculture
Ohio EPA - DEFA
Ohio Department of Natural Resources-Division of Water and Division of Wildlife
Ohio Environmental Council
Ohio & Erie Canal Corridor Coalition
Ohio Historic Preservation Office

Public Employees for Environmental Responsibility
Richfield Township
Sagamore Hills Township
Sierra Club Circulation
Summit County Council
Summit County Department of Environmental Services
Summit County Executive
Summit County Metroparks
Summit County Soil & Water Conservation District
The Nature Conservancy
US Army Corps of Engineers

US Environmental Protection Agency

US Fish & Wildlife Service – Columbus, Ohio

US Geological Survey – Columbus, Ohio

US House of Representatives

US Senate

Village of Boston Heights

Village of Northfield

Village of Peninsula

Village of Richfield

Village of Valley View

Village of Walton Hills

Western Reserve Historical Society

Western Reserve Resource Conservation and Development

Tribal Nations:

Absentee-Shawnee Tribe of Indians of Oklahoma

Delaware Tribe of Indians

Delaware Tribe of Western Oklahoma

Eastern Shawnee Tribe of Oklahoma

Miami Tribe of Oklahoma

Ottawa Tribe of Oklahoma

Seneca Nation of Indians

Seneca-Cayuga Tribe of Western Oklahoma

Shawnee Tribe

Wyandotte Nation.